Spring 1997

The Measurement of Mood Variation Over Time and Its Relation to Career Decision-Making Self-Efficacy in Young Adolescents

William Thomas Pinkston
Old Dominion University

THE MEASUREMENT OF MOOD VARIATION OVER TIME AND ITS RELATION TO CAREER DECISION MAKING SELF-EFFICACY IN YOUNG ADOLESCENTS

by
WILLIAM THOMAS PINKSTON

B.A., May, 1981, Upper Iowa University
M.S., May, 1992, Old Dominion University

A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirements of the Degree of

DOCTOR OF PHILOSOPHY
URBAN SERVICES

OLD DOMINION UNIVERSITY
May, 1997

Approved by:

Garrett J. McAuliffe, Ed.D.
Dissertation Chair

Julie R. Ancis, Ph.D.
Member

Rebecca S. Bowers, Ed.D.
Education Concentration
Director

Beth B. Bangley, Ph.D.
Member

Donna B. Evans, Ph.D.
Dean of Darden College of
Education

Raymond H. Kirby, Ph.D.
Member

ABSTRACT

THE MEASUREMENT OF MOOD VARIATION OVER TIME
AND ITS RELATION TO CAREER DECISION MAKING SELF-EFFICACY
IN YOUNG ADOLESCENTS

William T. Pinkston
Old Dominion University
Director: Garrett J. McAuliffe, Ed.D.

Variation in mood states over time and the relationship between mood states and career decision making self-efficacy in young adolescents were investigated using the Profile of Mood States (POMS), the Multiple Affect Adjective Check List - Revised (MAACL-R), the Rotter's IE locus of control test, and the Career Planning Confidence Scale (CPCS). These tests were administered twice a week for six weeks. A correlational analysis was performed. The results showed a higher correlation between mood state measures as the subjects' moods varied over time than between either mood measure and locus of control which did not covary with either of these measures. There was also a high correlation between all of the measures of positive mood included on both the POMS and the MAACL-R and the total measure of career decision making self-efficacy computed from the CPCS. Additionally, there was a significant correlation between the sensation seeking measure (MSS) of the MAACL-R and each of the five separate measures of career decision making self-efficacy included on the CPCS, that is, readiness to make a career decision (CR), self-assessment (CSA), information seeking (CIS),

deciding (CD), and implementing your decision (CI). Thus, while the subjects' moods did vary over time and both the POMS and the MAACL-R were sensitive to those changes, career decision making self-efficacy also appeared to vary with changes in positive mood states.

ACKNOWLEDGMENTS

I would like to extend special thanks to Dr. Garrett J. McAuliffe for his splendid guidance as my chairman, without whom the completion of this dissertation would not have been possible. I would also like to thank Dr. Raymond H. Kirby for his continuous help and encouragement throughout the planning and completion of this study.

I am also very grateful to the other members of my committee, Dr. Julie R. Ancis and Dr. Beth B. Bangley, for their valuable assistance and willingness to share their expertise in such a helpful manner.

Additionally, I would like to offer special thanks to Dr. E. Sidney Vaughn, Dr. John H. Sutherland, and Mr. Richard Smith for their support in this endeavor. Also, sincere thanks to Dr. Glynn D. Coates for his assistance in the analysis of the data and to my wife Judy for her patience and typing of this document.

DEDICATION

This work is dedicated with much appreciation to Dr. Raymond H. Kirby and Dr. Nina W. Brown, both of whom encouraged me without ceasing to believe that this goal was within my reach. Additionally, Dr. Kirby and Dr. Brown have served as role models for myself and all students who appreciate excellence and a caring attitude in higher education. It is also dedicated to the loving memory of my grandmother, Elizabeth Bame, who taught me that perseverance can overcome adversity.

TABLE OF CONTENTS

ACKNOWLEDGMENTS iv

DEDICATION v

LIST OF TABLES ix

CHAPTER 1. Introduction 1

Developmental Approaches to Career Behavior and Decision Making 2

Young Adolescent Development 7

Career Guidance and Development in Middle Schools 11

Guidance Needs Expressed by Young Adolescents . . 13

Career Development in Young Adolescents 15

Career Self-Efficacy 17

Rationale for the Study 19

Relevance to Urban Education 20

Research Questions 24

Definition of Terms 26

CHAPTER 2. Review of Related Literature 27

Mood and Performance 27

Mood Variation Over Time 35

Self-Efficacy Theory 37

Career Self-Efficacy 40

Career Decision Making Self-Efficacy 43

Career Indecision 47

Hypotheses 50

CHAPTER 3. Methodology 52
Population 52
Subjects 52
Design 53
Variables 53
Instruments 58
Procedure 63
Data Analysis Plan 64
CHAPTER 4. Presentation and Analysis of Data 67
Correlation of Mood Measures Over Sessions 67
Correlation of Mood and Career Decision Making Self-Efficacy 73
CHAPTER 5. Discussion 77
Summary of Results 77
Implications for Theory 81
Implications for Practice 85
Recommendations for Further Research 88
Conclusion 91
REFERENCES 93
APPENDIX A. Subject Consent Form 105
APPENDIX B. POMS Factor Loadings 107
Tension-Anxiety (Factor T) 107
Depression-Dejection (Factor D) 108
Anger-Hostility (Factor A) 109
Vigor-Activity (Factor V) 110
Fatigue-Inertia (Factor F) 111

Confusion-Bewilderment (Factor C) 112

APPENDIX C. Median Factor Loadings for New MAACL Scales 113

APPENDIX D. The Career Planning Confidence Scale . . . 114

APPENDIX E. Profile of Mood States 120

APPENDIX F. Multiple Affect Adjective Check List - Revised 121

LIST OF TABLES

Table		Page
1.	Means, Standard Deviations, and Coefficients of Variation for Each Measure	68
2.	Number of Significant Correlations for Individual Subjects Among All Combinations of Career Decision Making and Mood Measures	69
3.	Median, Minimum, and Maximum Correlations	71
4.	Varimax-Rotated Factor Pattern of Mood State, Trait, and CPCS Variables	72
5.	Varimax-Rotated Factor Pattern of Mood State, Trait, and Career Decision Making Self-Efficacy Total Variables	75

CHAPTER 1

Introduction

It is generally accepted that a person's mood state can affect his or her performance. A person who is depressed, for example, sometimes appears to have difficulty performing even relatively simple tasks. If the depression is chronic, the ability to function over time will be affected. DSM-IV (American Psychiatric Association, 1994) includes difficulty with thinking or concentrating and psychomotor retardation as symptoms of depression when the depressed mood lasts for a period of at least two weeks. But what about shorter-term changes in mood states in "normal" individuals? Can these variations in mood affect day-to-day or week-to-week performance?

Although it has been demonstrated in a number of studies that a person's mood state can affect his or her performance (e.g., McCaughey, 1986), there have been few studies which have attempted to measure mood variation over time and its relation to performance (e.g., Jackson, Larry & Kirby, 1981; Pinkston, Kirby & Coates, 1992). Furthermore, the degree to which day-to-day or week-to-week mood variation may affect performance has yet to be examined in detail.

In the Pinkston et al. (1992) study, mood was found to vary significantly from day to day and week to week in adult subjects whose mood states were measured twice a week for six weeks using the Profile of Mood States (POMS) and

the Multiple Affect Adjective Check List - Revised (MAACL-R). However, little or no relationship was found between mood and performance on the anagram and digit cancellation tasks used in that study. Further research was suggested with other types of tasks or characteristics, perhaps more cognitively demanding tasks or ones requiring more creativity. It was also suggested that other populations and/or age groups should be considered for study.

The task or characteristic examined in this study involves an aspect of career decision making known as career self-efficacy. Lent and Hackett (1986) define this as "a generic label encompassing judgments of personal efficacy in relation to a wide range of behavior involved in career choice and adjustment" (p. 349). The purpose of this study, therefore, was to examine the relationship between mood variation over time and young adolescents' beliefs about their own ability to make meaningful, career-related decisions and perform other activities that are being used in career guidance programs at the middle school level. Career is one of the central developmental issues for young adolescents as can be seen in the following theories.

Developmental Approaches to Career Behavior and Decision Making

Career preparation is a lifelong task. Each life phase brings with it special tasks and issues. Ginzberg, Ginzberg, Axelrod and Herma (1951)--a team of researchers

composed of an economist, a psychiatrist, a sociologist, and a psychologist, respectively--were early researchers who speculated about career development as a process that culminates in an occupational choice, usually in an individual's early twenties. They saw occupational choice as a developmental process, not as a single decision. Career development was seen as a series of decisions made over a period of years. Ginzberg et al. labeled the gross phases of the vocational choice process as "fantasy" (from birth to age 11), "tentative" (11 to 17), and "realistic" (age 17 to early 20's). In particular, they stated that "each step in the process has a meaningful relation to those which precede and follow it" (p. 185). Ginzberg et al.'s views established the notion that vocational behavior finds its roots in the early life of the child and develops over time.

Developmental emphases on career behavior and decision making differ from other psychological or sociological approaches, according to Herr and Cramer (1988), "not because they reject these approaches, but rather because they are typically more inclusive, more concerned with longitudinal expressions of career behavior, and more inclined to highlight the importance of the self-concept. They tend to be process oriented in their conceptions of how career behavior develops and changes over time" (p. 135).

Ginzberg and his associates saw choice as a process delimited by life stages, in which certain tasks are faced by preadolescents and adolescents. They state that "within the interaction that occurs as these tasks are confronted, compromises between wishes and possibilities contribute to an irreversibility as the process unfolds" (p. 135). Ginzberg (1972) reformulated his theory to suggest that the process of occupational choice making does not end at young adulthood but is likely to occur throughout the individual's working life with changes in goals or work situations requiring decision making and remaking. Thus, Ginzberg qualified his emphasis on the irreversibility of occupational choice. Ginzberg's (1972) reformulated theory included the following elements:

1. Occupational choice is a process that remains open as long as one makes and expects to make decisions about work and career. Often occupational choice and working life are coterminous.
2. The decisions made during the preparatory period (principally schooling through adolescence) help shape later career, but changes occurring in work and life also influence career.
3. Decisions about jobs and careers are individual attempts to optimize the fit between personal priority needs and desires and the work opportunities and constraints that occur.

After additional review of his and his original colleagues' work, Ginzberg (1984) further modified the earlier perspectives to suggest: "What happens to a person before he reaches twenty will affect his career, but he retains considerable scope for later decision making" (p. 179).

Essentially, Ginzberg and his colleagues identified four sets of factors which together influence the ultimate vocational choice: individual values, emotional factors (such as mood), the amount and kind of education, and the effect of reality throughout environmental pressures. These factors are seen as undergirding the formation of attitudes which converge to shape occupational choice. These attitudes could include career self-efficacy, which is personal efficacy as it relates to career behaviors. However, Ginzberg cautions against interpreting his theory too rigidly. He states that variations in the pattern are possible. Some people select an occupation early in life and never change from it, while others make multiple choices before establishing themselves into a clear choice.

Extending Ginzberg's ideas, Donald Super (1957) developed a theory that emphasizes stages of vocational development. He states, "Choice is, in fact, a process rather than an event . . . The term should denote a whole series or choices, generally resulting in the elimination of some alternatives and the retention of others, until in

due course the narrowing down process results in what might perhaps be called an occupational choice" (p. 184).

Super conceived of vocational development as one part of a person's total growth. Like social, emotional, and intellectual development, Super saw vocational development starting early in life. According to his theory, life can be typically divided into childhood, adolescence and young adult, and adult stages. The vocational part of life, however, is divided into five stages as follows:

1. Growth stage. This is a part of general physical and psychological development when attitudes and behaviors are formed that shape self-concept for the rest of one's life. (Self-concept is defined as meaning what one thinks of him or herself.) A person's self-efficacy could be greatly influenced by events in this stage as well.
2. Exploration stage. A person becomes aware that a career will be a major feature of life and he or she begins to explore occupations in school, part-time work, and leisure activities.
3. Establishment stage. During this stage a person believes that an appropriate field of work has been found and tries to create a permanent place in it.
4. Maintenance stage. A major concern is continuation in a chosen occupation, while holding onto gains that have already been established.

5. Decline stage. Physical and mental activity decreases; work slows down and in due time, stops.

Where a person is at any given time in Super's design of vocational development is seen to give an indication of one's vocational maturity (i.e., one's degree of vocational development). For the purpose of this study, the adolescent vocational developmental tasks of crystallizing a vocational preference and specifying a vocational preference as described by Osipow (1983), Super (1957), and Zaccaria (1970), respectively, are the focus. Specifically, how young adolescents feel about their own ability to accomplish these tasks and how this "self-efficacy" might be affected by their emotional arousal as it varies is the central research theme here.

Young Adolescent Development

In a review of the literature on early adolescence, Manning (1993) states that "the legitimacy of early adolescence, a developmental period between childhood and adolescence, has been accepted only during the past 30 or 40 years" (p. 5). Havighurst (1968) and Thornburg (1983b) particularly gave credibility to early adolescence when each suggested developmental tasks for 10 to 14 year olds. This age group was seen to have unique physical, psychosocial, and cognitive developmental characteristics.

The term "early adolescence," rather than "preadolescence," appeared to gain popularity with the publication of the work of Kagan and Coles (1972) because

it is during this period that many characteristics of adolescents begin to appear such as puberty, mood changes, separating from parents, and they are expected to start making some decisions that will ultimately affect their college and/or career plans. In this text of collected readings, most authors referred to the developmental period as "early adolescence" and to the individuals as "young adolescents." This is the practice in this work as well.

Physical Characteristics. Although individual growth varies according to genetics, culture, gender, and socio-economic status, developmental research has contributed to a portrait of young adolescents and allows the following generalizations:

1. Young adolescents experience a growth spurt marked by a rapid increase in body size, as well as readily apparent skeletal and structural changes.
2. All young adolescents experience the same developmental sequence, but rates and growth spurts vary among individuals.
3. With the onset of puberty, young adolescents experience physiological changes that include development of the reproductive system.

Psychosocial Characteristics. The following generalizations are presented by Manning (1993) concerning the psychosocial development of young adolescents:

1. Young adolescents generally make friends and interact socially, a characteristic crucial to psychosocial development.
2. Young adolescents shift their allegiance and affiliations from parents and teachers toward the peer group, which becomes the prime source for standards and models of behavior (Thornburg, 1983a).
3. Young adolescents' preoccupation with themselves leads to an examination of all aspects of their development and overall "self."
4. Young adolescents increasingly seek freedom and independence from adult authority.
5. Young adolescents experience changing self-esteem, which is influenced by all aspects of their lives--both at home and at school.

Cognitive Characteristics. The following generalizations concerning the cognitive development of young adolescents are suggested by Manning (1993) as follows:

1. Young adolescents' development can progress from Piaget's concrete operations stage to the early formal operations stage.
2. Young adolescents experience gradual changes in thinking that result in considerable diversity in their development.
3. Young adolescents can begin to think hypothetically, abstractly, reflectively, and critically.

4. Young adolescents can begin to develop the ability to make reasoned moral and ethical choices.

In each of the preceding developmental areas, the typical young adolescent is seen as experiencing considerable change and growth. As stated previously, this includes physical, psychosocial, cognitive, and emotional activity. The emotional or mood factor is present in all three of the other domains.

As physical changes occur, the young adolescent experiences accompanying emotions involved in the onset of puberty and development of the reproductive system. Psychosocial pressures produce a preoccupation with "self" including changes in overall self-esteem which could ultimately affect self-efficacy to perform various tasks, including career-related tasks. These changes, combined with various cognitive developmental characteristics, typically contribute to a period in which middle school students begin to think more abstractly as they begin to develop the ability to make important choices. In addition to moral and ethical choices confronting them, these students are required to make certain choices during the third year of their middle school tenure that could ultimately affect their choice of occupations, or at least their first occupation. Toward that end career guidance programs in middle school are designed to address young adolescents' career developmental tasks.

Career Guidance and Development in Middle Schools

Early adolescence at this time in history is particularly challenging for individuals. Bangley (1992) states that "America's young people are confronted with a unique set of challenges at a time when societal conditions are intensely stressful. Modern life makes career decision making complicated" (p. 4). The eighth grade is typically the first point where students are asked to make decisions which could ultimately impact their career choices and/or opportunities later in life. These decisions involve their choice of high school courses or programs which could determine the type of diploma they receive and whether they attend college, pursue other types of post-secondary training, or enter the job market directly after high school.

Zunker (1994) states that many of the goals of career education in elementary school are relevant for junior high school students. However, in junior high or middle school there is a shift of emphasis from general knowledge of work roles to more specific learning issues like career decision making and interests assessment. Learning to differentiate individual characteristics and to identify broad occupational areas of interest are goals to foster in junior high school. Awareness of self in relation to personal interests, values, abilities, and personal characteristics is an important objective during this developmental period. Planning and decision making skills

are emphasized in junior high school. Zunker (1994) further concludes that adolescence is a period of turmoil resulting in a transition from childhood. Career plays a major role in the resolution of this turmoil. The key characteristic of this state of development, according to Erikson (1963), is the search for identity as one subordinates childhood identifications and reaches for a different identity in a more complex set of conditions and circumstances. The major danger of this period is seen as role confusion; thus, this state is often referred to as "identity versus role confusion."

In this critical period, new identifications are no longer characterized by childhood playfulness but are now characterized by the beginning of a process which will ultimately impel the individual into choices and decisions. These decisions could eventually lead to life commitments. According to Erikson (1963), the choice of career and commitment to a career have a significant impact on identity and self-concept.

A young person who is unable to avoid role confusion may very well adopt a "negative identity." This may, in turn, lead to behavior which is in direct conflict with family and society. For some, this negative identity is maintained throughout adulthood. Identity confusion, according to Erikson (1963), often results in lack of commitment to a set of values and, subsequently, to

occupations. Career guidance can be critical in this process.

Super (1990) suggests a strong relationship between identity and career commitment. Both of these variables are considered representative of "career maturity." Career maturity is seen as a stabilized identity that provides individuals with a framework for making career choices. Career maturity is also seen as a continuous developmental process which is accompanied by various characteristics and traits such as decisiveness, independence, and knowledge of occupational information, as well as skills in planning and decision making.

This study attempts to investigate the possibility that mood variation may also have an impact on decisions that young adolescents are called on to make in the eighth grade. The specific decision making task examined here is the young adolescent's belief in his or her own ability to enact career-related behaviors.

Guidance Needs Expressed by Young Adolescents

In a study of guidance needs expressed by 1,518 preadolescent and early adolescent students, Kesner (1977) reports the following needs as most prominent: academic skill development, educational and vocational development, interpersonal relationships, intrapersonal understanding, and career development.

More recently, the National Occupational Information Coordinating Committee (NOICC, 1992) outlined three areas

of career development for students in middle/junior high as follows:

1. Self-knowledge
    a. Knowledge of the influence of a positive self-concept
    b. Skills to interact with others
    c. Knowledge of the importance of growth and change
2. Educational and occupational exploration
    a. Knowledge of the benefits of educational achievement to career opportunities
    b. Knowledge of the relationships between work and learning
    c. Skills to locate, understand, and use career information
    d. Knowledge of skills necessary to seek and obtain jobs
    e. Understanding of how work relates to the needs and functions of economy and society
3. Career planning
    a. Skills to make decisions
    b. Knowledge of the interrelationships of life roles
    c. Knowledge of different occupations and changing male/female roles
    d. Understanding of the process of career planning

Considering the previously noted developmental theory as well as the results and possible implications of these two national studies, there appears to be an expressed need

by both young adolescents and career development professionals for carefully implemented career planning programs for middle/junior high students appropriate to the developmental state of these young adolescents.

Career Development in Young Adolescents

Ginzberg (1951) viewed career development as a long-term process consisting of three periods, characterized respectively as fantasy, tentative, and realistic. In the fantasy stage children may imagine themselves in various work roles that they see adults performing, such as astronauts, movie stars, cowboys, famous athletes, or a variety of other occupations. The tentative period is divided into the states of interest, capacity, and value. Interest begins when one becomes aware of things he or she likes or dislikes. Capacity emerges when an individual discovers things that he or she can do better than others. Value then appears when the person becomes conscious of some things being more important than others. These occur typically in young adolescents. Finally, as individuals become more self-reliant and aware of occupations, they make a transition into the realistic period which ultimately leads to career exploration, crystallization, and commitment to a particular type of work.

Super (1957) conceived vocational development as part of one's total growth which, like social, emotional, and intellectual development, starts early in life. His stages progress through childhood, adolescence, and adulthood

They include growth, exploration, establishment, and maintenance stages. Growth is seen as a period of general physical and psychological development, when attitudes and behavior form to shape self-concept. The exploration stage brings awareness that a career will be a major feature of life as one begins to explore occupations in school, part-time work, and leisure activity. This is, again, typical of the young adolescent. Establishment comes when a field of work has been found and a person tries to create a permanent place in it. These stages are followed by a maintenance period, where individuals continue while holding onto gains already established, and a decline stage where physical and mental activity decreases and finally stops.

Zaccaria (1970) and Osipow (1983), along with Super (1951), emphasized vocational development tasks at each life stage beginning at early adolescence. These tasks, as outlined by Lock (1988), begin with the young adolescent crystallizing a vocational preference by developing ideas about work that are appropriate for him or herself. This is seen as a generalized preference which can include behaviors directed at obtaining information and planning for the preferred occupation. But what might affect the young adolescent's decision to prefer a particular occupation? Further, what may contribute to the young student's own belief that he or she can make meaningful decisions concerning career preference? As stated

previously, this study examines the contribution that mood state variation may make in this decision making process.

Career Self-Efficacy

In addition to development and guidance, the social cognitive (Bandura, 1986) notion of career self-efficacy speaks to young adolescents' career needs. Bangley (1992) notes that a number of studies have focused on career decision making as researchers have sought to understand the role of various psychological and cognitive factors involved in this task. A number of career self-efficacy studies focus specifically on the problems that individuals experience in their attempts to make relevant career decisions or choices. Self-efficacy refers to a person's belief that he or she can or cannot successfully execute the behaviors required to produce specific outcomes.

Bandura (1977) first developed self-efficacy theory as a component of his work on behavior and the role of cognitive processing in social learning theory. He reasoned that one's self-efficacy beliefs differed (or varied) in magnitude and strength as well as generality. His theory also suggested that personal efficacy expectations were acquired through four sources: performance accomplishments, vicarious experiments, verbal persuasion, and emotional arousal.

While working with phobics, Bandura (1977) also found a strong, positive correlation between subjects' self-efficacy beliefs and their levels of performance. Self-

efficacy beliefs were shown to predict the likelihood of an individual's initiating and persisting in specific behaviors. This study focuses on the possible relationship between these self-efficacy beliefs concerning career-related decisions and the young adolescent's emotional arousal or mood state.

Betz and Hackett (1986), as well as Lent and Hackett (1986), in summarizing the major findings regarding self-efficacy and career self-efficacy, called for more attention to the measurement of self-efficacy and to the expansion of studies into a wider variety of career behaviors. Lent and Hackett (1986) also encouraged an examination of the impact of environmental variables on career self-efficacy as well as extending the research model to more diverse populations.

It is with these suggestions in mind that the present study examines the impact of mood variation over time on the career decision making self-efficacy of young adolescents in the urban school setting. Young adolescents are subject to numerous environmental and biological variables that could contribute to high levels of such mood states as anxiety, anger, depression, hostility, fatigue, and confusion or bewilderment. Stumpf, Brief and Hartman (1987), in analyzing the relationship between self-efficacy perceptions and coping under stressful circumstances, found that individuals with low self-efficacy were more likely to rely on emotional mechanisms to cope with stress related to

career behaviors. Subsequently, Bangley (1992) extended research in career self-efficacy to an adolescent population. Her study revealed that 111 of 470 incoming seniors at an urban public high school who completed a Career and Educational Plans Questionnaire displayed moderately greater uncertainty about plans and less confidence in their career decision making skills than their peers.

In summary, both mood and self-efficacy have been reported to vary and to impact human performance. The extent to which mood variation might impact self-efficacy, especially career decision making self-efficacy, is the focus of this study.

Rationale for the Study

The purpose of this study was to add to the understanding of the relationship between mood variation over time and variation in career decision making self-efficacy for young adolescents. Also, additional information on how moods vary over time and the measurement of this variation was examined. As stated previously, self-efficacy is defined as one's beliefs about his/her ability to execute the behaviors required to produce an outcome (Bandura, 1977). Career self-efficacy deals with personal beliefs as they relate to career behaviors (Betz & Hackett, 1986). For the purpose of this study, beliefs that young adolescents have about their own ability to answer career

questionnaires, surveys, or other measures of career interest in a meaningful way were the focus.

As students in the urban school environment develop and are called upon to make decisions or choices about many areas of their lives, including choices about their career interests, preferences, and skills, it will be helpful to expand our knowledge of what variables may contribute to these choices. Will possible day-to-day or week-to-week variations in mood such as anxiety, depression, fatigue, anger, and confusion, as well as vigor, sensation seeking, or positive affect, be a factor? Do students' career decision making self-efficacy or their feelings about their own abilities to make meaningful choices on career measures vary? If so, does their career decision making self-efficacy covary with mood measures as moods vary? These were all questions addressed in this study.

Relevance to Urban Education

Given the high stress environment to which many students in urban areas are exposed, both at home and in their communities or neighborhoods, it seems reasonable to expect high levels of problematic mood states among these students. This could include high levels of anxiety, anger, depression, fatigue, confusion, and other basically negative mood states as well as high levels of positive mood states such as vigor, sensation seeking, and positive affect. It is also presumed that high levels of these

states could have a negative effect on students' abilities to learn and/or to make decisions.

As mood states vary from day to day or week to week, it is suggested that learning more about the measurement of mood variation over time and its relationship to performance among urban students would be helpful and relevant to urban education in general.

As stated, the characteristic selected for this study, along with mood variation, was career decision making self-efficacy in young adolescents. Even though career exploration programs begin at the elementary school level, it is in middle school (especially the eighth grade) that the first decisions need to be made that could eventually impact career choice. This is the time when high school class selections are made as students prepare to enter the ninth grade (i.e., their first year of high school). Many of these choices could be based on career interest and/or skills inventories taken earlier. If mood variations have impacted the choices made by students on these surveys or their efficacy to respond meaningfully, how might these choices have varied if their mood states and possibly their career decision making self-efficacy had been different at the time of testing? Thus, if mood states vary and choices vary as these moods change, could there be a relationship between mood variation and career decision making self-efficacy among students that impacts decisions that they make about choices or answers on career measures? It is

hoped that this study has added to our understanding of these processes and ultimately will aid school guidance counselors and teachers in achieving a better understanding of the results of various career measures used in urban public school career guidance programs. These results could also be considered as new career exploration programs are being developed and implemented.

Additionally, there is a trend across the United States (partially due to the enactment of the Carl D. Perkins Vocational and Applied Technology Education Act of 1990 and the School-to-Work Opportunities Act of 1994) to place an emphasis on programs designed to prepare high school graduates for work in specific career fields and/or for further training in the particular career field of the student's choice.

The choice of which career area, field, or cluster that this will be for each student ideally should not be made lightly or too late into the student's senior high school tenure. Rather, some career exploration and some decisions should be made at least by the second semester of the eighth grade if students are to decide on which type of high school program to enter.

Programs such as Tech Prep (see Parnell, 1985) and School-to-Work (see Brustein & Mahler, 1994), which have been implemented due to these two federal acts, place special emphasis on providing work-based experiences for

all students and on connecting school-based and work-based experiences.

Hull and Parnell (1991) observed that, although the responsibilities for career guidance are usually assigned to high school counselors, some educators propose a less traditional approach that includes teachers and other members of the faculty as important providers of these services. Bottoms, et al. (1992) noted that the Southern Regional Education Board (SREB), for example, advocates shifting to a new model of guidance that places responsibility for career counseling on all school personnel. This model also seeks to integrate career education opportunities into the high school curriculum. Furthermore, in 1992, the National Center for Research in Vocational Education reported that there is a growing consensus among Tech Prep advocates that exposure to careers and career planning should begin earlier than high school, that is, in middle school or even elementary school.

Referring specifically to Tech Prep/School-to-Work programs, Silverberg (1993) stated that there is considerable variation in the way these programs are defined and implemented. Elaborating on this variation, she stated that "some programs focus on the 2 + 2 model, but others define a 4 + 2 program beginning in the ninth grade, or still other variants of the program framework" (p. 2).

Since some of these programs do in fact begin in the ninth grade, and others may follow this pattern in the future, it is even more imperative that continuing attention be given to research that would contribute to our understanding of all aspects of career behaviors relating to middle school students.

If some students have to decide to enter a program such as Tech Prep and/or School-to-Work that begins in the ninth grade, it is suggested that these students should be helped to make such decisions at times when career decision making self-efficacy is high. Since the results of the present study indicated that high positive mood states are correlated to high career decision making self-efficacy, it is suggested that expanding our knowledge of the detection of these mood states, their variation over time, and even interventions that may contribute to more positive attitudes or moods (and ultimately to better career-related decision making) is important.

Research Questions

As stated previously, although mood has been reported to affect a person's performance, there have been few studies which have considered the variation of mood states over time and compared those measures to performance. Both Jackson, Larry and Kirby (1981) and Pinkston, Kirby and Coates (1992) found significant mood variation over time working with adult subjects. Jackson et al.'s approach measured mood states at significant benchmarks throughout a

women's basketball season using team members as subjects, while the Pinkston et al. study measured mood states of male and female volunteers twice a week for six weeks. Both studies, however, found relatively low correlations between mood variations and the performance tasks measured in their respective studies. This study asked the following questions considering mood variation over time with young adolescent subjects in the eighth grade at an urban middle school:

1. Will the mood states of young adolescents be found to vary over time (i.e., from day to day or week to week)?
2. Will the Profile of Mood States (POMS) and the Multiple Affect Adjective Check List - Revised (MAACL-R) be sensitive to changes in mood over time with young adolescent subjects?
3. Will the POMS and MAACL-R covary more with each other than with a measure of a more stable trait, such as locus of control?
4. Will the career decision making self-efficacy of young adolescents be found to vary over time (i.e, from day to day or week to week)?
5. Will there be a high correlation between the measures of mood variation over time and the measures of career decision making self-efficacy of young adolescents?

Definition of Terms

A summary of the key terms which have been defined or introduced in other portions of Chapters 1 and 2 are presented here:

1. Self-efficacy--is defined as one's beliefs about his/her ability to successfully execute the behaviors required to produce an outcome (Bandura, 1977).
2. Career self-efficacy--deals with personal efficacy as it relates to career behaviors (Betz & Hackett, 1986).
3. Career decision making self-efficacy--describes one's beliefs about his/her ability to make career decisions (Taylor & Betz, 1983).
4. Mood states--emotional or affective states that occur and go away depending on various circumstances and situations (Derlega, Winstead & Jones, 1991).
5. Locus of control--the degree to which the individual perceives that reward follows from, or is contingent upon, his (or her) own behavior or attributes versus the degree to which he (or she) feels the reward is controlled by forces outside himself (or herself) and may occur independently of his (or her) own actions (Rotter, 1966).
6. States--described as features that are temporary, brief, and linked to external circumstances.
7. Traits--refers to personal characteristics that are stable, long lasting, and internally caused (Chaplin, John & Goldberg, 1988).

CHAPTER 2

Review of Related Literature

The present study is based on literature from six areas: mood and performance, mood variation over time, self-efficacy, career self-efficacy, career decision making self-efficacy, and career indecision.

Mood and Performance

A number of studies point to factors which alter mood states and which appear to affect human performance as these moods change. Alkov (1988) stated that chronic stress was a factor in aircraft mishaps. Working with naval aviators, who are required to work at very high stress levels, Alkov noted that inadequate stress coping was responsible for numerous accidents. Such factors as difficulty with interpersonal relationships, trouble with superiors and peers, recent major career decisions, and financial problems were found to affect the performance of these highly skilled officers.

Sleep loss has also been seen to affect moods and performance. Haslem (1984) found that the effects of sleep loss on soldiers in tactical defensive exercises were psychological rather than physiological. Soldiers were found to be militarily ineffective after 48-72 hours without sleep. Angus (1985) tested 12 female university students who were required to monitor continuously and act on information being transmitted over a communications network. During a 54-hour period of wakefulness, results

showed that this cognitively demanding environment produced greater mood and performance decrements as a function of sleep loss than in previous, less demanding studies. Mood dimensions affected were anxiety, depression, and hostility. These changes in mood were seen to affect performance in short-term memory, logical reasoning, and paired-associative learning. Driscoll (1970) also found that feeling and mood states change with sleep loss and that demands to perform possibly exaggerate these subjective reactions. During 48 hours of continuous work qualitative changes were seen to occur, particularly in the major affective states--anxiety, depression, and hostility. Some correlation was found between these states and performance on tasks that subjects performed during the continuous work schedule.

Haslem (1985), in another study using army personnel, investigated the effects of two hours of sleep on performance following 90 hours of wakefulness. She found that, after three nights without sleep, soldiers' average cognitive performance was 55 percent of the control values. During a test session immediately before a two-hour nap, performance improved to 85 percent of control values. This indicated the considerable effect that the incentive of knowing that a nap is imminent can have on even severely sleep-deprived subjects.

Other psychological studies of mood indicate that caffeine impairs fine motor coordination and increases

anxiety and tenseness while diazepam produces sedation, lowers ratings of subjective moods (i.e., anxiety and tenseness), and impairs cognitive, learning, and memory performance. The two drugs did not antagonize the effects of each other, except in the subjects' performance on a symbol cancellation task (Loke, Hinrich & Ghoneim, 1985).

Michael Bonnet (1985) found that sleep disruption affected mood and performance on a simple task. Eighteen to 32 year olds were briefly awakened after each minute of EEG-defined sleep for two consecutive nights. Following disruption, the subjects performed more poorly on Wilkinson addition, simple reaction time, digit symbol substitution, and rated themselves sleepier than on baseline. The level of decline was similar to that seen after periods of total sleep loss of 40-64 hours. Based on the correlation between increased fatigue and lower performance scores, it was concluded that periodic disruption of sleep results in impaired function.

Finally, distress has been found to affect job performance. McCaughey (1986) examined psychiatrically related medical records of 13 crewmen of a U. S. Navy ship who sought psychiatric help following a collision. He found that all subjects wanted to avoid further sea duty. Anxiety, depression, nightmares, panic episodes, and startle reflex were among the various complaints. Considerable distress was documented to the extent of impaired performance on their normal military duties

although none were recommended for discharge or transfer to shore duty during the post-collision period. Seven of the subjects were even able to be promoted a total of ten pay grades during subsequent service as their mood states improved.

Much work has been done to study the performance of subjects in an athletic environment considering the possible relationship between mood states and productivity in sports competition. A factor analytically derived inventory, the Profile of Mood States (POMS), has been used in several of these studies. It was developed to measure six identifiable mood or affective states: Tension-Anxiety, Depression-Dejection, Anger-Hostility, Vigor-Activity, Fatigue-Inertia, and Confusion-Bewilderment. The POMS was developed by McNair, Lorr and Droppleman (1971). The research on the POMS was supported by the Veterans Administration's outpatient psychiatric research laboratory. Over the past 20-30 years, many studies have indicated that a variety of psychological states and traits are useful in discriminating between athletes of differing abilities. William Morgan (1980) also suggested that the use of an athlete's personality profile, along with other information including experience, coaches' ratings, and anatomic and physiologic characteristics, can aid in the selection of team members and contribute to the enhancement of team performance.

Several studies prior to 1980 produced some commonality of results, which laid the groundwork for Morgan's (1980) conclusion. Nagle, Morgan, Hellickson, Serfas and Alexander (1975), as well as Highlen and Bennett (1979), used male wrestlers as subjects. Morgan and Pollock (1977) used distance runners, and Morgan and Johnson (1978) conducted studies with rowers. It was found in each of these studies that athletes with positive mental health were more likely to be successful performers than those with poor mental health. In the Morgan and Johnson (1978) study, it was predicted that rowers scoring low on state anxiety, trait anxiety, tension, depression, anger, fatigue, confusion, neuroticism, and conformity, but high on vigor and extroversion, would be likely to earn a berth on the boat than a rower with a mirror image of this profile. Using this prediction model, 31 of those who were rejected were correctly identified. Forty-one of the 57 predictions made in this study were correct. This presented a 70 percent success rate for predicting performance in rowers. Similar results were found for the other athletes tested. The subjects in these studies were Olympic athletes competing in the final selection camps. The following psychological inventories were employed: State-Trait Anxiety Inventory (STAI), (Spielberger et al., 1970); Somatic Perception Questionnaire, (Landy & Stern, 1971); Depression Adjective Check List (DACL), (Luben, 1967); Profile of Mood States (POMS), (McNair et al., 1971); and

Eysenck Personality Inventory (EPI), (Eysenck & Eysenck, 1968).

Other research, with female athletes, has shown that they differ from female nonathletes much the same as male athletes and nonathletes differ. Peterson, Weber and Trousdale (1967) found that elite performers in team sports were more extroverted than those in individual sports. Both groups had high emotional stability. Malumphy (1968), however, found that individual sportswomen were more extroverted than athletes from team sports. Several studies (Williams, Hoepner, Moody & Ogilvie, 1970; Balazs, 1975; and Gravelle, Searle & St. Jean, 1982) found that elite women athletes displayed healthy personality profiles on the Edwards Personal Preference Scales (EPPS).

Morgan (1980) has cautioned about the difficulty of interpreting the investigations using female athletes as differing from other sports groups due to differences in reliability and sampling procedures. He has, however, stated that there is one area of study, using personality along with mood state measures, which gives enough empirical knowledge about athletes to be of use. This information could be useful in monitoring athletes' mental health with respect to performance during training and competition.

With the background of these studies, Jackson, Larry and Kirby (1981) conducted a study involving elite women athletes who were members of the Old Dominion University

basketball team. At the time of the study, the team had a very high national ranking. The study's purpose was to determine a possible relationship of selected psychological traits and mood states with successful performance in basketball. Changes in mood states were monitored during the season at significant benchmarks. The subjects were all 12 members of the team. They had been the most recent AIAW two-time defending Division I National Champions and had a reputation as being one of the best women's teams of the era.

Three measures of personality and mood states were taken. These were the Eysenck Personality Inventory (EPI), the Profile of Mood States (POMS), and the Sports Competition Anxiety Test (SCAT). The EPI was developed by Eysenck and Eysenck (1968) to measure two personality dimensions: extroversion and neuroticism. The POMS, as already mentioned, measured six mood dimensions. Marten's (1977) SCAT was used to obtain a measure of state anxiety in a competitive environment. Individuals' game statistics were used in the performance assessment. The result of the Jackson et al. (1981) study indicated that the team exhibited a positive picture of mental health, compared to test norms, except for slightly high scores for fatigue (POMS) and neuroticism (EPI). Data on the POMS taken after a leading player left the team appeared to be sensitive to the event, which seemed to upset the women's basketball team. This event, which apparently caused an increase in

tension and anger, was followed by one of the team's worst defeats of the season in their very next game. Another mood state that changed significantly over the season was indicated by the fatigue scores (POMS). These were the highest during the preseason practice sessions and early season games with an apparently linear drop-off by the end-of-the-season games.

Jackson et al. (1981) stated that "the use of the POMS as a means of tracking psychological mood swings during the competitive basketball season seemed to be an effective way to monitor mood states that could affect performance. POMS results appeared related to significant events and pressures of perceived difficult games" (p. 8). Also, Morgan (1980) advocated regular testing of elite athletes by use of the POMS so that early hints of psychological problems could be detected in the athletes' profiles. Thus, the POMS as developed by McNair, Lorr and Droppleman (1971) has been useful in athletic settings. With this in mind, the present study sought to examine the usefulness in nonathletic areas of the POMS and the Multiple Affect Adjective Check List - Revised (MAACL-R) as developed by Zuckerman (1960) and revised by Zuckerman and Lubin (1985).

Some studies, which were mentioned earlier, indicated that mood states do have a significant relationship to performance on various nonathletic tasks. Each of these studies measured some aspects of mood and indicated performance changes which were attributed to these mood

states. The POMS, as stated earlier, has been used to measure these mood variations. Much of this has been in the area of sports, but humans are also affected in many other areas of endeavor. However, there seems to be a lack of data on measures of mood over time and their relation to performance in nonathletic tasks. Additionally, these studies have not looked at how POMS or the Multiple Affect Adjective Check List - Revised (MAACL-R) results change from day to day, week to week, or over other periods of time.

Mood Variation Over Time

Some studies did, however, focus on mood variation while assessing the content of emotional life. A classic example of this type of emotion-personality research is the work of Wessman and Ricks (1966) who found that the primary dimension of daily mood was a broad positive versus negative affect factor. In their study, they had 21 Radcliffe women and 17 Harvard men keep daily mood records for six consecutive weeks using a "Daily Record of Personal Feelings." On this record the subjects reported how much of each of a variety of emotions they had felt that day using a ten-point scale. Many mood scales were included, such as harmony versus anger, tranquil versus anxious, energy versus fatigue, outgoing versus withdrawn, and elation versus depression.

The average level of positive or negative mood reported by each subject over the six-week period

represented how characteristically happy or unhappy the subject was. Other studies followed which also used daily measures of mood states to establish emotional traits. These included Larsen and Diener (1985) who used daily mood records to explore the relationship between personality and the emotional content of life.

Each of these studies and other related ones attempted to classify subjects according to their tendency to exhibit certain emotions. Thus, daily mood variation was used to establish trait tendencies, but none of these studies examined the relation of mood variation and performance.

As stated, with this background in mind, the Pinkston et al. (1992) study sought to examine the usefulness of the POMS and the Multiple Affect Adjective Check List - Revised (MAACL-R) in nonathletic areas. Data from that study indicated that measures of mood by the POMS (i.e., Tension-Anxiety, Depression-Dejection, Anger-Hostility, Vigor-Activity, Fatigue-Inertia, and Confusion-Bewilderment) and MAACL-R (i.e., Anxiety, Depression, Hostility, Positive Affect, and Sensation Seeking) do vary over relatively short periods of time in normal individuals. Observations were made during a twice-a-week testing schedule throughout a six-week testing period, and measurements were obtained on the POMS and MAACL-R.

The results of the Pinkston et al. (1992) study indicated that the measures of mood state, the POMS and MAACL-R, were sensitive to these day-to-day or week-to-week

changes in mood states of adult subjects and that they varied together. Additionally, these mood state reactions were independent of measures of a more stable trait, locus of control. Measures of locus of control (Rotter's IE Scale) taken at each testing session did not vary with any of the mood measures over the testing period. Also, the mood measures were not related to variations in performance on the anagram and digit cancellation tasks used in the study (as mentioned earlier).

In the conclusion of this study, it was suggested that further research be conducted with other types of tasks, perhaps more cognitively demanding ones. As stated, the present study examined career decision making self-efficacy in young adolescents as such a complex task or characteristic and its possible relation to mood variation over time in young adolescents.

Self-Efficacy Theory

As stated previously in Chapter 1, self-efficacy theory was developed by Bandura (1977) as a component of his work on behavior and the role of cognitive processing in social learning theory. Self-efficacy was defined as "one's belief that he or she can successfully execute the behaviors required to produce specific outcomes" (p. 193). Bandura's theory presumes that one's self-efficacy beliefs affect the choice of activities a person will attempt, determine in which settings those activities will occur,

and affect the length of time those activities will persist.

Bandura (1977) further reasoned that self-efficacy beliefs differ in terms of magnitude, strength, and generality. Magnitude was seen as the amount of difficulty that an individual associates with a specific task. Strength referred to the intensity of one's expectancy beliefs about accomplishing a task. Generality, consequently, referred to a level of confidence resulting from mastering specific tasks. Bandura (1977) saw this success as promoting a feeling of confidence within a person that he or she is able to achieve other tasks.

As previously stated, Bandura (1977) theorized that one's personal efficacy expectations are acquired through four sources: (a) performance accomplishments, (b) vicarious experiences, (c) verbal persuasion, and (d) emotional arousal. It is the contribution made to self-efficacy by emotional arousal (or mood) as it varies over time that is the focus of the present study.

In several studies which involved snake phobics, Bandura (1977) found a strong relation (i.e., a positive correlation) between subjects' self-efficacy beliefs and their levels of performance. Self-efficacy beliefs were further seen to predict the likelihood of an individual's initiating and persisting in specific behaviors.

Additional research by Bandura and Adams (1977) investigated the question as to which methods of treatment

appeared to have the most impact on one's self-efficacy beliefs. These treatment approaches included participant modeling, performance exposure, suggestion, exhortation, relaxation, biofeedback, and desensitization. Their findings confirmed that treatments based on performance accomplishments through "participant modeling produce higher, stronger, and more generalized expectations than do vicarious experiences alone" (p. 288). Bandura and Adams (1977) concluded that "efficacy expectations predict with considerable accuracy the level of performance regardless of whether self-efficacy is changed through inactive mastery, vicarious experience, or extinction of anxiety arousal by systematic desensitization" (pp. 303-304). However, Bandura and Adams (1977) cautioned "to the extent that people differ in how they judge the many factors bearing on their performance, their precepts of self-efficacy will vary to some degree" (p. 304).

Bandura (1982) further elaborated on the concept of self-efficacy by depicting self-efficacy as a mechanism that determines behavior in humans through a personal sense of being able "to produce and to regulate events in their own lives" (p. 122). He also cited the diverse application of self-efficacy theory to a range of human behavioral processes.

In that same year, Goldfried and Robins (1982) supported Bandura's conceptualizations of one's self-efficacy beliefs being distinct from one's outcome

expectations for a behavior. They suggested that "the practitioner assist individuals to incorporate appropriate information about successful encounters through techniques like discriminating between past and present behaviors, assessing objectively and subjectively, retrieving positive experiences, and aligning clients' emotional schemata with self-evaluations" (p. 367). Bandura (1984) further explained that believing that an outcome is the product of a specific action is different from believing that an individual may accomplish that action.

Although there were some criticisms of the theoretical model (see Eastman & Marziller, 1984), the clinical and counseling psychology community clearly recognized the concept of self-efficacy as a promising approach by the latter 1980's, as evidenced by the scope of research which applied it to a variety of behaviors. A summary of the research on self-efficacy theory is provided by Maddux, Stanley and Manning (1987) which provides suggestions for applications in the practice of clinical and counseling psychology.

Career Self-Efficacy

Hackett and Betz (1981) were the first researchers to apply self-efficacy theory to the area of career decision making. They found that perceptions of female subjects regarding their career choices were affected by a lack of exposure to a different set of career-related experiences, by a lack of role models, and by a lack of encouragement to

pursue certain careers which were typically male dominated. They concluded that females develop self-efficacy beliefs which reflect society's stereotypical ideas about male versus female qualities.

Assessment and further development of measures of self-efficacy were seen by Hackett and Betz (1981) as important parts of the attempt to understand the career choices of women. They subsequently saw this as "a necessary first step in investigations of the relationship of efficacy expectations to vocational behavior" (p. 334). Further, Hackett and Betz (1981) considered the "lack of strong expectations of personal efficacy in relation to career-related behaviors" (p. 329) as an internal barrier for women. In a review of their work in this area, Bangley (1992) states, "Consistent with Bandura's model, Hackett and Betz surmise the self-efficacy beliefs of females about potential occupations from which they could choose are acquired in their interactions with society through the social learning modes of performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal. Perceptions of females regarding their career choices are affected by a lack of exposure to a different set of career-related experiences, by a lack of role models, and by a lack of verbal encouragement to pursue male-dominated careers. Females develop self-efficacy beliefs which reflect the society's stereotypical ideas about male versus female qualities" (pp. 28-29).

Eventually, career self-efficacy was defined as "a generic label encompassing judgments of personal efficacy in relation to the wide range of behaviors involved in career choice and adjustment" (Lent & Hackett, 1986, p. 349).

Assessment was also viewed by Hackett and Betz (1981) as an integral part of the self-efficacy approach to understanding career choices. They considered the development of measures of self-efficacy to be "a necessary first step in investigations of the relationships of efficacy expectations to vocational behaviors" (p. 334). They further outlined recommendations for future investigations of the ways that efficacy expectations may affect an individual's range of perceived career options, decision making, and pursuit of career plans (p. 335).

Subsequently, Taylor and Betz (1983) took steps in a specific area of career self-efficacy by investigating the concept of career decision making self-efficacy as it relates to career indecision. Testing 346 college students using the Career Decision Scale (CDS), they found that lack of confidence and structure had the strongest relationship to career indecision.

A major goal and outcome of the Taylor and Betz (1983) study was the development of the Career Decision Making Self-Efficacy Scale (CDMSES) which was based on Crites' five Career Choices Competencies (Crites 1961, 1965 & 1969). The CDMSES was found to be a "reliable measure of self-efficacy expectations with respect to the tasks

required in career decision making" (Taylor & Betz, 1983, p. 78). It has been reported to have a high internal consistency reliability (coefficient alpha = .97) and high item/total score correlation (86 per cent of the items ranged from .50 to .80).

Career Decision Making Self-Efficacy

As a specific sub-area of career self-efficacy, career decision making self-efficacy deals with the decision making domain which involves behaviors required to choose an occupation. Career decision making self-efficacy describes one's beliefs about his/her ability to make career decisions. In a study which collected data from 346 college students using several instruments, including the Career Decision Scale (CDS), Taylor and Betz (1983) investigated the concept of career decision making self-efficacy as it relates to career indecision. Their conclusions were listed as follows: (a) College students who were in the study had considerable confidence in their ability to make career decisions; (b) a strong negative correlation existed between students' career decision making self-efficacy expectations and their overall level of career indecision; and (c) lack of confidence and structure had the strongest relationship to career indecision.

The Career Decision Making Self-Efficacy Scale (CDMSES) which was developed from data collected by Taylor and Betz in this 1983 study, while being found to be a

reliable measure of self-efficacy expectations with respect to the tasks required in career decision making, was also found to "provide a structure for interventions . . ." (p. 80). Additionally, "the results provided a conceptual framework and methodology for both assessment and intervention with respect to problems in career decision making" (pp. 80-81). Taylor and Betz (1983) also suggested that further research should be done to explore the role of cognitive-mediational factors like self-efficacy in vocational behavior.

In a follow-up study, Robbins (1985) questioned Taylor and Betz's (1983) evidence that indicated the presence of an "overall factor" of career decision making self-efficacy. Based on the results of this study, which sought to test the construct validity of the CDMSES, Robbins considered the Taylor and Betz (1983) findings as conflicting with Bandura's original concept of task specific behaviors normally associated with self-efficacy. Robbins obtained concurrent validity estimates by comparing the CDMSES scores to two criterion variables. These were confidence and the readiness to engage in career decision making behavior. His conclusion was that the CDMSES was in fact "a measure of generalized self-efficacy rather than a measure of self-efficacy expectations for specific career decision making skills" (p. 70). However, he described the CDMSES as "an important first step in attempting to use and

measure constructs derived from a perspective of social learning theory" (p. 71).

In a summary of the major research findings in the area of career self-efficacy, Betz and Hackett (1986) called for more attention to the measurement of self-efficacy and for additional studies on a wider variety of career behaviors. Lent and Hackett (1987) followed with a monograph on the status of self-efficacy in which they enumerated a number of possibilities for future investigations of career self-efficacy based on the results of previous research. They encouraged the examination of the adequacy of psychometric instruments for assessment to pinpoint the level of specificity needed for accurate measurement, to assess the impact of environmental variables, and to determine the possible presence of gender differences.

Additionally, Lent and Hackett (1987) suggested self-efficacy research would expand theoretical perspectives by (a) recognizing the need to extend the research model to include more diverse populations, (b) the need to study the relationship of self-efficacy to other career behavior constructs and theories, and (c) the need to explore whether causality between self-efficacy and career behavior can be obtained through intervention studies.

In response to the Robbins (1985) comments, Taylor and Pompa (1990) replicated the Taylor and Betz (1983) study. Their research involved administering the CDMSES, along

with several other instruments, to 407 subjects. One of their objectives was to clarify what the CDMSES measured in terms of general career decision making self-efficacy and to explore the relationship between career decision making self-efficacy and vocational indecision. Their results indicated that the CDMSES did, in fact, assess more specific factors in its subscales than the Taylor and Betz (1983) study had originally shown. Additionally, a moderate negative relationship between career decision making self-efficacy and vocational indecision was confirmed. Taylor and Pompa (1990) concluded that "levels of self-efficacy are significantly predictive of career indecision" (p. 29).

Considering that the CDMSES had failed somewhat to provide a consistent factor structure (Robbins, 1985; Taylor & Betz, 1983), Pickering, Calliotte and McAuliffe (1992) were prompted to work on the development of the Career Planning Confidence Scale (CPCS) which was used in the present study. The CPCS is a 40-item experimental measure of "career self-efficacy." In the case of the CPCS, self-efficacy is focused on the specific tasks and behaviors required to make career-related decisions. The instrument was designed so that specific factors in career decision making self-efficacy can be assessed. On the CPCS, examinees are asked to rate their confidence in their own ability to perform each of 40 career decision making tasks on a scale of 1 (not at all confident) to 5 (completely

confident). Further details concerning this instrument are provided in Chapter 3 of this document.

Career Indecision

As researchers have sought to understand the role of various psychological and cognitive factors involved in career decision making, a number of studies have emerged as a subset of this topic. These studies explore the problems individuals experience in making a career decision or choice. One term used to refer to this condition or problem is career indecision. Other terms often used in the literature to refer to the same condition are vocational indecision and career undecidedness. Kaplan and Brown (1987) define career indecision as being uncommitted to an occupational direction.

The career indecision literature, as we now define it, begins with Tyler's (1961) research in which she attempted to delineate career indecision as a distinct problem, which may or may not represent a general inability of a person to make decisions. Goodstein (1956) further described two types of career indecision in studies citing cases involving his own clients. Crites (1965) followed by elaborating on postulations of both Tyler and Goodstein, while various other researchers investigated career indecision with differing results over the next several years.

In 1976, Osipow, Carney, Winer, Yanico and Koschier extended the possibility of additional research efforts in

career indecision by their development of the Career Decision Scale (CDS). This instrument was intended for use in assessment of career indecision in high school and college students. The CDS has also been used to measure changes in career indecision over time or following an intervention.

Further researchers, such as Holland and Holland (1977), contributed significantly to the understanding of career indecision. In Holland and Holland's 1977 study more than 1,500 high school and college juniors were compared, after being classified as decided or undecided, on a number of measures. Their findings revealed that undecided students possessed significantly lower amounts of vocational identity and maturity. They further proposed three general categories into which students could be grouped in regard to career indecision: (a) those who postpone a career decision because they do not have to decide at the time; (b) those who delay a decision due to mild anxiety or immaturity; and (c) those who are very immature, anxious, or otherwise troubled. This tended to substantiate Crites' (1969) suggestion that there are multiple types of career indecision.

Salomone (1982) stated that "indecisive persons fail to make important decisions, not because they lack sufficient information, but because they have personal qualities that will not allow them to reach a decisional state of mind and take a course of action" (p. 497). In his

proposed continua to be used to differentiate between types of career indecision, Salomone described the decisiveness continuum as having an emotional-psychological dimension.

Salomone's dual model of indecision was paralleled by Van Matre and Cooper (1984), who proposed a framework employing orthogonal axes to depict a student's position in reference to career decision making ability. In this model a decided-undecided state formed one axis while a decisiveness-indecisiveness trait formed the other axis.

While much of this research and that which followed was concerned with chronic career indecision that would tend to fall under the area of psychological traits as suggested by Downing and Dowd (1988), there appears to be indications that a person's emotional state could be a factor to consider as well. Newman, Fuqua and Minger (1990) state that research on the identification of types of career indecision is still in a preliminary state. The literature seems also to suggest that research on the causes of career indecision, as well as low career self-efficacy, is still in its early stages.

Vondracek, Hostetler, Schulenberg and Shimizer (1990), who refined the concept of career indecision further in a study to ascertain the feasibility of using four subscales to identify subtypes of career indecision with the Career Decision Scale (CDS), also stated that "further research is needed to discover and define other types of indecision, so that treatment can be even more individualistic" (p. 105).

It is the purpose of the present study to add to our knowledge of the processes involved in the emotional aspect of this topic. With this objective in mind, mood state variation over time and its possible relation to variation in career decision making self-efficacy in young adolescents was the focus of this study. The study begins with an examination of eighth grade students since this is the first identifiable point where some early career choices or preferences need to be made. These choices could ultimately have an effect on the career options and/or outcomes available to these students. Whether or not they are developmentally ready for these decisions is still open for debate; nevertheless the educational system requires that certain choices be made at this age level. The results of this study should be combined with proposed follow-up studies with twelfth graders and/or first-year college students as well as adults in career transition to form a more complete appraisal of the effects of mood variation on career decision making self-efficacy and ultimately career decision making.

Hypotheses

Relative to the five research questions presented in Chapter 1, the following hypotheses are presented:

1. The mood states of young adolescents vary over time (i.e., from day to day or week to week).
2. The Profile of Mood States (POMS) and the Multiple Affect Adjective Check List - Revised (MAACL-R) are

sensitive to changes in mood over time with young adolescent subjects.

3. The POMS and MAACL-R covary more with each other than with a measure of a more stable trait, such as locus of control.
4. The career decision making self-efficacy of young adolescents varies over time (i.e., from day to day and week to week).
5. There are high correlations between measures of mood variation over time and the measures of career decision making self-efficacy of young adolescents.

CHAPTER 3

Methodology

Population

All eighth graders in a large, urban middle school in the southeastern United States were considered as the initial pool for selecting subjects for this study. The student population was approximately 2,200. They all resided in a middle class community in a large metropolitan area of more than one million people. With approval of the local school board and the principal of the school, all students in one intact home room class were invited to participate in the study. Students had originally been assigned to this class in a random manner.

Following an orientation during their home base period, which consisted of an explanation of each of the four measures to be used and an explanation of the purpose and procedures of the study, consent forms were distributed to all students who expressed an interest in participating. These consent forms included a space for each student's signature as well as space for their parent or legal guardian to sign. A witness's signature was also required. A copy of this consent form is included in Appendix A.

Subjects

Of the 24 potential subjects, one declined to participate. Twenty-three eighth graders obtained parental consent. Twenty-two of these students completed the 12 testing sessions.

The participants included 10 male and 12 female subjects. Four participants were African-American; three were Asian; two were Hispanic; and thirteen were Caucasian. All subjects were 13 years old. This demographic profile is consistent with that of the school population.

Design

This was a correlational study examining the relationship between the measures of mood state variation over time and the measures of career decision making self-efficacy. All subjects were measured over time, twice a week for six weeks, for a total of twelve testing sessions. Four instruments were used including one measure of a supposedly stable trait, locus of control.

Variables

The variables in this study were the six measures of mood included on the Profile of Mood States (POMS), the five measures of mood (affect) included on the Multiple Affect Adjective Check List - Revised (MAACL-R), the measure of locus of control from Rotter's IE Scale, and the five measures of career self-efficacy included on the Career Planning Confidence Scale (CPCS). These are listed and defined as follows:

Measures Included on the POMS.

1. **Tension-Anxiety (Factor T)**

Factor T is defined by adjective scales descriptive of heightened musculoskeletal tension (see Appendix B). The defining scales include reports of somatic tension which

may not be overtly observable (Tense, On edge), as well as observable psychomotor manifestations (Shaky, Restless). Correlations of the scales with the factor are generally consistent across the six replications reported by McNair, Lorr and Droppleman (1971). Adjectives which refer to vague, diffuse anxiety states (Anxious, Uneasy) tend to have slightly lower loadings. A number of scales were dropped from the Tension factor after use in one or more studies because of low factor correlations or multivocality. They tended to be adjectives which refer to generalized states of discomfort (Worried, Impatient, Upset, Irritable, p. 7).

2. Depression-Dejection (Factor D)

Factor D appears to represent a mood of depression accompanied by a sense of personal inadequacy (see Appendix B). It is best defined by scales indicating feelings of personal worthlessness (Unworthy), futility regarding the struggle to adjust (Hopeless, Desperate), a sense of emotional isolation from others (Blue, Lonely, Helpless, Miserable), sadness (Sad, Unhappy), and guilt (Guilty, Sorry for things done). "The factor is broadly defined and replicated in the six studies" (p. 7).

3. Anger-Hostility (Factor A)

Factor A appears to represent a mood of anger and antipathy toward others (see Appendix B). The principal defining scales (Angry, Furious, Ready to fight) have been repeatedly replicated, and their factor correlations are

consistent across the six studies. They describe feelings of intense, overt anger. "Grouchy" and "Annoyed" describe milder feelings of hostility, and their factor correlations are also relatively consistent across studies. "Resentful," "Spiteful," "Deceived," and "Bitter," items referring to more sullen and suspicious components of hostility, have been replicated in four or more studies. "Peeved," "Bad-tempered," and "Rebellious" were added to broaden Anger in Studies 4-6 (p. 7).

4. Vigor-Activity (Factor V)

Factor V is defined by adjectives suggesting a mood of vigorousness, ebullience, and high energy (see Appendix B). The factor has consistently appeared in all six studies. It is negatively related to the other POMS factors. The lower correlations of the defining variables with the factor in Study 3 probably resulted from the attempt to define a Friendliness factor which was highly correlated with Vigor. To some extent Vigor probably represents a positive affect factor since, in several studies, all the items included in an attempt to define Friendliness have high loadings on the Vigor factor (p. 8).

5. Fatigue-Inertia (Factor F)

Factor F represents a mood of weariness, inertia, and low energy level (see Appendix B). It has been confirmed in six studies. "Tired" and "Fatigued" appeared to be a doublet in both Studies 1 and 3, and "Tired" was dropped in subsequent forms of the POMS. While negatively related, F

and V appear to be independent factors and not opposite poles of a single bipolar factor. This appears to be the case for both the "PAST WEEK" and "RIGHT NOW" rating periods (p. 8).

6. **Confusion-Bewilderment (Factor C)**

Factor C appears to be characterized by bewilderment and muddleheadedness and has now been confirmed in Studies 3, 5, and 6 (see Appendix B). There is doubt as to whether the factor represents a trait of cognitive inefficiency, a mood state, or both. One possibility is that C is related to the classical organized-disorganized dimension of emotion. It may represent a self-report of cognitive efficiency, possibly a by-product of anxiety or related states (p. 8).

Measures Included on the MAACL-R. The development of the five new scales included in the MAACL-R is described in Zuckerman, Lubin and Rinck (1983). Briefly, in its original testing, 536 college undergraduates in two classes were given the 132-item MAACL state ("now-today") form on two occasions, five days apart. In one class the second MAACL was given just prior to a regularly scheduled course examination, and in the other class it was given prior to a normal lecture session.

The principle-axis method of factor analysis was used with varimax rotations to define the factors best describing the responses to the 132 items in each class on each occasion (four separate factor analyses). A five-

factor solution was found to produce factors that were both meaningful and replicable across classes and occasions according to Zuckerman and Lubin (1985). These five factors accounted for 47 to 51% of the common variances in the four-factor analyses. The factor labeled Positive Affect (PA) accounted for the largest proportion of variance (17 to 20%) in the four analyses. The other four factors were Anxiety (A) (5-11%), Depression (D) (5-11%), Hostility (H) (7-11%), and Sensation Seeking (SS) (4-8%).

Zuckerman and Lubin (1985) report that items that had loadings of at least .30 on a particular score factor in at least three of the four factor analyses (with a few exceptions on the SS scale), and loaded more highly on one specific factor than on the others, were used to construct the five scales. The items on each scale and their median factor loadings as reported by Zuckerman and Lubin (1985) are presented in Appendix C.

The Measure of Locus of Control, Rotter's IE Scale (Rotter, 1966), is a 23-item, forced-choice questionnaire with six filler items adapted from the 60-item James (1957) scale. It is scored in the external direction; that is, the higher the scores, the more external the individual's locus of control.

Measures Included on the CPCS. The CPCS is a 40-item experimental measure of "career decision making self-efficacy." On the CPCS examinees are asked to rate their confidence in their ability to perform each of 40 career

decision making tasks (see Appendix D). Originally, 51 items were developed using a rational process. However, the CPCS was reduced to 40 items and five scales using factor analysis. The five scales are labeled as follows: Readiness Confidence, Self-Assessment Confidence, Information-Seeking Confidence, Deciding Confidence, and Implementation Confidence.

Instruments

The four instruments used were the Profile of Mood States (POMS) (see Appendix E), the Multiple Affect Adjective Check List - Revised (MAACL-R) (see Appendix F), Rotter's IE Scale (locus of control), and the Career Planning Confidence Scale (CPCS) (see Appendix D).

Mood Measures. The two measures of mood states were the POMS and the MAACL-R. The POMS, developed by McNair, Lorr and Droppleman (1971), measures six mood dimensions: Tension-Anxiety (PT); Depression-Dejection (PD); Anger-Hostility (PA); Vigor-Activity (PV); Fatigue-Inertia (PF); and Confusion-Bewilderment (PC). The MAACL-R, developed by Zuckerman and Lubin (1985), measures Anxiety (MA); Depression (MD); Hostility (MH); Positive Affect (MP); and Sensation Seeking (MS).

The POMS provides a rapid, economical method of identifying and assessing transient, fluctuating affective states. In its present form of 65 five-point adjective rating scales, the POMS represents the refinement of a total of 100 different adjective scales by means of

repeated factor analyses. The Thorndike-Lorge (1944) word lists were consulted to restrict the adjectives in the POMS to those which an average individual can understand. The developers, McNair et al. (1971), report that, typically, persons with at least a seventh grade education have little or no difficulty in understanding the POMS.

The POMS' internal consistency is indicated by data on the homogeneity of the six replicated POMS factor scores. All these indices of the extent to which the individual items within the six mood scales measure the same factor are reported to be near .90 or above (McNair et al., 1971). Additionally, these internal consistencies are reported to range from slightly to considerably higher than in the developmental forms of POMS (McNair & Lorr, 1964).

The test-retest reliability estimates obtained for the POMS range from .65 for Vigor to .74 for Depression. The obtained stability coefficients are considerably lower than the .80 to .90 levels expected of measures of stable personality traits or characteristics. However, since the stability of a fluctuating state such as mood would not be expected to reach the levels required of personality traits, extremely high stability coefficients for mood measures could be taken as evidence of lack of construct validity (McNair et al., 1971).

The six-factor analytic replications in the development of the POMS may be taken as evidence of the factorial validity of the six mood factors, according to

its developers. Additionally, four areas of research have provided evidence for the predictive and construct validity of the POMS. These four areas are: (1) brief psychotherapy studies; (2) controlled outpatient drug trials; (3) studies of response to emotion-inducing conditions; (4) studies of concurrent validity coefficients and other POMS correlates. These studies are presented in detail by McNair, Lorr and Droppleman (1971) in the Manual for the Profile of Mood States.

The Multiple Affect Adjective Check List (MAACL) was first published by Zuckerman and Lubin in 1965 and revised in 1985. Both the MAACL and the MAACL-R have been useful instruments for the measurement of affects as states or traits. A bibliography compiled by Lubin, Zuckerman and Woodward (1985) listed 716 published articles or doctoral dissertations that had used the MAACL or least one or more of its scales.

The MAACL-R was developed due to a probable lack of discriminant validity between the old subscales on the MAACL which typically correlated between .7 and .9 on any given occasion. While it was still possible for only one of the three scales to show a significant change in response to a specific kind of stress, such as that induced by examinations (Zuckerman, Lubin, Vogel & Valerius, 1964), most stressors tended to result in changes on all three scales. Furthermore, studies of mood had generally found two independent factors: positive affect and negative

affect (Watson & Clark, 1984). Thus, Zuckerman and Lubin (1985) state: "It was obvious that modification of the MAACL to fit the underlying structure of affect would require more drastic revision of the negative affect scales, probably resulting in unipolar scales, as well as the inclusion of a separate positive affect scale" (p. 2). Consequently, the revised version of the MAACL (or MAACL-R) contains three negative affect scales: "anxiety," "depression," "hostility" and two positive affect scales: "positive affect" and "sensation seeking." The median item factor loadings for these new MAACL scales are included in Appendix C.

Locus of Control Measure. The measure of locus of control, Rotter's IE Scale (Rotter, 1966), was used as a personality or trait measure which was not expected to vary throughout the six-week procedure. Social learning theory (Rotter, 1954) proposed that a person's expectations of attaining a goal, and the value he or she places on the goal, determine the likelihood that a specific behavior will occur. Rotter's theory concerns whether a person feels that he or she can control outcomes by his or her own effort (internal locus of control) or that events greatly influence what will happen (external locus of control). This measure, which was not expected to vary over time, was compared to possible mood variations (which were expected to vary over time) and possible career self-efficacy variations.

Career Decision Making Self-Efficacy Measure. The Career Planning Confidence Scale (CPCS), developed by Pickering, Calliotte and McAuliffe (1992), is a 40-item experimental measure of "career decision making self-efficacy" (see Appendix D). The CPCS is based on social cognitive theory, more specifically on Bandura's (1977, 1986) notion of self-efficacy. Self-efficacy can be defined as an individual's confidence in his or her ability to successfully perform certain behaviors. In the case of the CPCS, self-efficacy is focused on the specific tasks and behaviors required to make career decisions. Pickering et al. (1992) state that this instrument was designed so that specific factors in career decision making self-efficacy might be assessed. The CPCS asks individuals to rate their confidence in their ability to perform each of 40 career decision making tasks on a scale of 1 (not at all confident) to 5 (completely confident).

The developers (Pickering et al., 1992) state that, originally, 51 items were developed using a rational process. However, the CPCS was reduced to 46 items and five scales using factor analysis. The names of the resulting scales were based on the prescriptive decision making models of Gelatt, Varenhorst, Carey and Miller (1973), Katz, Noris and Pears (1977), and Krumboltz and Baker (1973) as well as the career application of behavioral self-control principles (Thoreson & Ewart, 1976). The five scales were labeled as follows: Readiness Confidence, Self-

Assessment Confidence, Information-Seeking Confidence, Deciding Confidence, and Implementation Confidence.

The CPCS has shown internal consistency reliability (Cronbach's alpha) which ranged from $\underline{a}$ = 0.81 for Readiness Confidence to $\underline{a}$ = 0.92 for Implementation Confidence. Internal consistency for all 40 items was $\underline{a}$ = 0.96. The scales of the CPCS have shown a significant correlation with self-esteem (ranging from $\underline{r}$ = .33 to $\underline{r}$ = .47), generalized indecisiveness (ranging from $\underline{r}$ = .34 to $\underline{r}$ = .50), decidedness (ranging from $\underline{r}$ = .20 to $\underline{r}$ = .39), vocational identity (ranging from $\underline{r}$ = .31 to $\underline{r}$ = .46), and goal instability (ranging from $\underline{r}$ = .20 to $\underline{r}$ = .38). A previously developed instrument, the Career Decision Making Self-Efficacy Scale (CDMSES), (Taylor & Betz, 1983) also measures self-efficacy, but failed to provide a consistent factor structure (Robbins, 1985; Taylor & Betz, 1983), a finding which promoted work on the development of the CPCS (Pickering et al., 1992).

Procedure

As stated, the purposes of the tests, or measures, were initially discussed with each subject. After all subjects had returned the written subject consent forms with all necessary signatures, the POMS, MAACL-R, the Rotter's IE Scale, and the CPCS were administered twice a week for six weeks until all subjects were tested twelve times. Subjects were tested in a classroom under the supervision of the researcher and their home room teacher.

Each subject was first given the POMS, followed by the MAACL-R. These mood measures were followed by the Rotter's IE Scale. After completion of these measures, the CPCS was administered to all subjects. This procedure was repeated at each testing session.

To insure the privacy of each subject, no names were used on the tests. Instead, each subject was assigned a subject number from 1 to 23 (e.g., S1). Each session, the number of the testing session was combined with the subject number (e.g., S1-1). This procedure was subsequently used on all tests throughout the study with each subject number remaining the same and the session number changing as the sessions progressed. The same procedure was followed each testing session until all subjects had been tested twelve times over the six-week period.

Data Analysis Plan

Correlation of Mood Measures Over Sessions. The extent to which the measures of mood varied together within subjects over the testing sessions was addressed with two different analyses of the data. First, for each individual subject, correlation coefficients across testing sessions were determined between each pair of mood measures, that is the six scales of the POMS and the five scales of the MAACL-R, and between each of these measures of mood and the score on the IE Scale. Subsequently, the proportion of significant correlations between POMS scales and MAACL-R scales was compared to the proportion of significant

correlations between each of the measures of mood and the IE Scale using Wilcoxon matched-pairs signed-ranks tests (Siegel & Castellan, 1988). The reasoning behind this analysis is that if the measures of mood vary together more over time than they do with the IE Scale, there should be more significant correlations between the measures of mood over sessions than between either of them and the measure of locus of control, the IE Scale.

The second approach to assessing the extent to which the mood measures varied together over time employed factor analysis. Included in the factor analysis were the scores from the POMS, the MAACL-R, the IE Scale, and the CPCS for each of the twelve sessions. The reasoning behind this analysis is that if the measures of mood are measuring similar constructs, and ones which are distinct from those measured by the IE Scale, this should be revealed in the obtained factor structure.

Relation of Mood and Career Decision Making Self-Efficacy. The relation of the measures of mood and the five measures of career decision making self-efficacy--readiness confidence, self-assessment confidence, information seeking confidence, deciding confidence, and implementation confidence--was assessed with two approaches similar to those described above. For each individual subject, correlations between each measure of mood and each career decision making self-efficacy measure across testing sessions were determined. Subsequently, the proportion of

significant correlations between the POMS and each career decision making self-efficacy measure, between the MAACL-R and each career decision making self-efficacy measure, and between the IE Scale and each career decision making self-efficacy measure was determined. Again, Wilcoxon matched-pairs signed-ranks tests were planned to see if the proportion of significant correlations between the mood measures and those of career decision making self-efficacy differed from the proportion of significant correlations between the IE Scale and the career decision making self-efficacy measures. The reasoning behind this analysis is that if mood and career decision making self-efficacy are correlated, there should be a higher proportion of significant correlations between measures of them than between measures of career decision making self-efficacy and those of a trait that is not expected to vary over time, the IE Scale.

The second approach to assessing the correlation between career decision making self-efficacy and mood used the factor analyses described above. Variation of the career decision making self-efficacy measures with mood should lead to these measures loading on the same factors, and on different factors than the IE Scale.

CHAPTER 4

Presentation and Analysis of Data

The purpose of this study was to examine the relationship between mood variation over time and career decision making self-efficacy in young adolescents. Table 1 shows the means, standard deviations, and coefficients of variation for each of the measures over the 12 sessions.

Correlation of Mood Measures Over Sessions

Included in Table 2 are, for each subject, the number of significant correlations between the various combinations of measures taken during each session, that is, between the six scales of the POMS and the five scales of the MAACL-R, between the six scales of the POMS and the IE Scale, etc. The number of significant correlations was converted into proportions of the total number of correlations, and then these proportions were compared using Wilcoxon matched-pairs signed-ranks tests to determine whether the POMS and MAACL-R had more scales that were significantly correlated than either had with the IE Scale. The analyses showed the POMS and MAACL-R had a higher proportion of significant correlations than the POMS and IE Scale, $T = 35.0$, $P < .01$, as well as the MAACL-R and IE Scale, $T = 8.0$, $P < .01$. Thus the measures of mood were more highly correlated with each other over sessions than they were with the measure of locus of control. To provide a picture of the magnitude and range of these correlations

Table 1

Means, Standard Deviations, and Coefficients of Variation for Each Measure

Variable	Mean	Std. Dev.	Coefficient of Variation
PT	5.064	7.041	1.390
PD	9.560	13.356	1.397
PA	8.666	10.677	1.232
PV	12.833	7.271	0.567
PF	7.098	6.576	0.926
PC	4.151	5.615	1.353
MA	1.500	2.067	1.378
MD	1.416	2.322	1.640
MH	2.079	3.107	1.494
MPA	8.268	6.665	0.806
MSS	5.587	2.659	0.476
IE	10.893	3.404	0.327
CR	11.560	2.796	0.242
CSA	35.227	6.774	0.192
CIS	26.776	5.853	0.219
CD	40.876	8.896	0.218
CI	40.348	6.646	0.165

Key:

POMS Tension (PT)
POMS Depression (PD)
POMS Anger (PA)
POMS Vigor (PV)
POMS Fatigue (PF)
POMS Confusion (PC)
MAACL-R Anxiety (MA)
MAACL-R Depression (MD)
MAACL-R Hostility (MH)
MAACL-R Positive Affect (MPA)
MAACL-R Sensation Seeking (MSS)
Rotter's IE Scale (IE)
CPCS Readiness (CR)
CPCS Self-Assessment (CSA)
CPCS Information Seeking (CIS)
CPCS Deciding (CD)
CPCS Implementing (CI)

Table 2

Number of Significant Correlations for Individual Subjects Among All Combinations of Career Decision Making Self-Efficacy and Mood Measures

Subject	PM(30)	PI(6)	PC(30)	MI(5)	MC(25)	IC(5)
1	3	0	4	0	0	1
2	1	1	1	0	2	1
3	4	0	3	1	0	0
4	17	0	3	0	2	0
5	15	0	1	0	0	2
6	1	0	4	0	1	0
7	3	0	12	0	2	0
8	9	1	6	1	2	2
9	3	0	12	0	3	0
10	11	0	4	1	6	0
11	15	0	1	0	0	0
12	4	0	2	0	0	1
13	0	0	1	0	3	0
15	1	0	4	0	1	0
16	2	0	2	0	1	0
17	2	0	0	0	5	0
18	8	2	4	0	0	0
19	27	1	0	1	0	0
20	9	0	7	0	1	0
21	1	0	1	0	0	2
22	22	0	1	0	1	0
23	5	3	0	0	2	0

Key: P = POMS
M = MAACL-R
I = Rotter's IE
C = Career Self-Efficacy

over sessions, Table 3 shows the median and range of the distribution of the individual subjects' correlations for each combination of the individual scales used in the study.

The second approach to assessing the above relationship involved factor analysis, specifically a principal components factor analysis with varimax rotation. Correlations were determined between each of the individual scales used in the study using each subject's score for each individual scale and for each session as the scores to be intercorrelated. Thus, the N for each correlation was 264 (22 subjects for each of 12 sessions); the scales included in the intercorrelation matrix were the six scales of the POMS, the five scales of the MAACL-R, the IE Scale, and the five scales of the CPCS. (The N was not sufficient to do factor analyses for each individual subject.)

As shown by the results of the factor analysis, Table 4, four significant factors were found. The first factor had all of the measures of the POMS and the MAACL-R that represent negative mood states loaded on it. The second factor had all of the measures of career decision making self-efficacy from the CPCS loaded on it. The third factor had all of the measures of the POMS and the MAACL-R that represented positive mood states loaded on it. Finally, the only scale loading significantly on the fourth factor was the IE Scale. These results were consistent with the above

Table 3

Median, Minimum, & Maximum Correlations*

	PT	PD	PA	PV	PF	PC	MA	MD	MH	MPA	MSS	IE	CR	CSA	CIS	CD	CI
		0.53	0.60	-0.15	0.58	0.43	0.31	0.19	0.18	-0.30	-0.01	0.13	-0.07	-0.04	-0.19	-0.10	-0.17
PT		-0.20	-0.37	-0.70	-0.19	-0.03	-0.27	-0.47	-0.57	-0.88	-0.78	-0.36	-0.79	-0.55	-0.65	-0.57	-0.49
		0.93	0.93	0.69	0.86	0.89	0.81	0.87	0.79	0.56	0.50	0.63	0.42	0.45	0.56	0.56	0.56
	0.53		0.74	-0.22	0.57	0.54	0.15	0.38	0.32	-0.43	-0.22	0.19	-0.21	-0.15	-0.10	-0.12	-0.16
PD	-0.20		-0.14	-0.85	0.00	0.20	-0.28	-0.21	-0.11	-0.97	-0.90	-0.69	-0.78	-0.79	-0.86	-0.82	-0.76
	0.93		0.96	0.71	0.91	0.97	0.95	0.99	0.80	0.51	0.46	0.59	0.65	0.69	0.46	0.69	0.53
	0.60	0.74		-0.02	0.43	0.59	0.15	0.27	0.55	-0.32	-0.17	0.21	-0.09	-0.18	-0.04	-0.20	-0.15
PA	-0.37	-0.14		-0.83	-0.12	-0.47	-0.37	-0.26	0.00	-0.90	-0.85	-0.69	-0.90	-0.50	-0.57	-0.82	-0.58
	0.93	0.96		0.84	0.89	0.90	0.84	0.82	0.92	0.58	0.56	0.57	0.73	0.52	0.61	0.68	0.55
	-0.15	-0.22	-0.02		-0.23	-0.16	0.00	-0.25	-0.21	0.48	0.44	-0.02	0.08	0.03	0.01	0.03	-0.07
PV	-0.70	-0.85	-0.83		-0.82	-0.82	-0.89	-0.82	-0.90	-0.63	-0.45	-0.48	-0.41	-0.61	-0.58	-0.61	-0.71
	0.69	0.71	0.84		0.70	0.70	0.60	0.64	0.59	0.92	0.94	0.50	0.64	0.50	0.67	0.58	0.54
	0.58	0.57	0.43	-0.23		0.55	0.06	0.15	0.22	-0.29	-0.24	0.14	-0.05	0.05	-0.02	-0.11	0.01
PF	-0.19	0.00	-0.12	-0.82		-0.50	-0.52	-0.33	-0.24	-0.94	-0.91	-0.52	-0.73	-0.86	-0.76	-0.84	-0.85
	0.86	0.91	0.89	0.70		0.90	0.81	0.89	0.86	0.52	0.45	0.57	0.58	0.66	0.57	0.68	0.70
	0.43	0.54	0.59	-0.16	0.55		0.10	0.40	0.39	-0.43	-0.27	0.23	0.00	-0.18	-0.07	-0.06	-0.25
PC	-0.03	0.20	-0.47	-0.82	-0.50		-0.38	-0.22	-0.44	-0.85	-0.91	-0.81	-0.77	-0.53	-0.65	-0.81	-0.69
	0.89	0.97	0.90	0.70	0.90		0.90	0.96	0.90	0.31	0.52	0.48	0.59	0.61	0.54	0.70	0.62
	0.31	0.15	0.15	0.00	0.06	0.10		0.29	0.20	-0.20	-0.11	-0.02	0.00	0.00	0.00	-0.09	0.04
MA	-0.27	-0.28	-0.37	-0.89	-0.52	-0.38		-0.34	-0.42	-0.97	-0.88	-0.40	-0.45	-0.53	-0.66	-0.64	-0.68
	0.81	0.95	0.84	0.60	0.81	0.90		0.95	0.86	0.74	0.40	0.50	0.51	0.50	0.61	0.47	0.32
	0.19	0.38	0.27	-0.25	0.15	0.40	0.29		0.46	-0.34	-0.10	0.03	-0.01	-0.02	-0.07	0.06	0.00
MD	-0.47	-0.21	-0.26	-0.82	-0.33	-0.22	-0.34		-0.22	-0.97	-0.88	-0.32	-0.69	-0.47	-0.56	-0.62	-0.66
	0.87	0.99	0.82	0.64	0.89	0.96	0.95		0.98	0.26	0.51	0.61	0.44	0.47	0.35	0.42	0.41
	0.18	0.32	0.55	-0.21	0.22	0.39	0.20	0.46		-0.33	-0.05	0.01	-0.02	-0.02	-0.00	0.01	-0.02
MH	-0.57	-0.11	0.00	-0.90	-0.24	-0.44	-0.42	-0.22		-0.86	-0.85	-0.69	-0.75	-0.72	-0.50	-0.66	-0.73
	0.79	0.80	0.92	0.59	0.86	0.90	0.86	0.98		0.33	0.50	0.60	0.51	0.34	0.52	0.32	0.52
	-0.30	-0.43	-0.32	0.48	-0.29	-0.43	-0.20	-0.34	-0.33		0.38	-0.02	0.05	0.04	0.12	0.02	-0.01
MPA	-0.88	-0.97	-0.90	-0.63	-0.94	-0.85	-0.97	-0.97	-0.86		-0.57	-0.42	-0.43	-0.33	-0.77	-0.32	-0.82
	0.56	0.51	0.58	0.92	0.52	0.31	0.74	0.26	0.33		0.89	0.59	0.81	0.49	0.49	0.66	0.66
	-0.01	-0.22	-0.17	0.44	-0.24	-0.27	-0.11	-0.10	-0.05	0.38		0.01	0.11	0.11	0.04	-0.02	0.04
MSS	-0.78	-0.90	-0.85	-0.45	-0.91	-0.91	-0.88	-0.88	-0.85	-0.57		-0.54	-0.51	-0.79	-0.52	-0.69	-0.64
	0.50	0.46	0.56	0.94	0.45	0.52	0.40	0.51	0.50	0.89		0.45	0.78	0.52	0.67	0.62	0.75
	0.13	0.19	0.21	-0.02	0.14	0.23	-0.02	0.03	0.01	-0.02	0.01		-0.02	-0.04	-0.02	-0.01	-0.03
IE	-0.36	-0.69	-0.69	-0.48	-0.52	-0.81	-0.40	-0.32	-0.69	-0.42	-0.54		-0.64	-0.78	-0.59	-0.43	-0.80
	0.63	0.59	0.57	0.50	0.57	0.48	0.50	0.61	0.60	0.59	0.45		0.77	0.62	0.45	0.48	0.60
	-0.07	-0.21	-0.09	0.08	-0.05	0.00	0.00	-0.01	-0.02	0.05	0.11	-0.02		0.29	0.20	0.47	0.38
CR	-0.79	-0.78	-0.90	-0.41	-0.73	-0.77	-0.45	-0.69	-0.75	-0.43	-0.51	-0.64		-0.34	-0.60	-0.58	-0.60
	0.42	0.65	0.73	0.64	0.58	0.59	0.51	0.44	0.51	0.81	0.78	0.77		0.95	0.88	0.92	0.81
	-0.04	-0.15	-0.18	0.03	0.05	-0.18	0.00	-0.02	-0.02	0.04	0.11	-0.04	0.29		0.52	0.45	0.48
CSA	-0.55	-0.79	-0.50	-0.61	-0.86	-0.53	-0.53	-0.47	-0.72	-0.33	-0.79	-0.78	-0.34		-0.38	-0.09	-0.35
	0.45	0.69	0.52	0.50	0.66	0.61	0.50	0.47	0.34	0.49	0.52	0.62	0.95		0.94	0.90	0.88
	-0.19	-0.10	-0.04	0.01	-0.02	-0.07	0.00	-0.07	-0.00	0.12	0.04	-0.02	0.20	0.52		0.38	0.36
CIS	-0.65	-0.86	-0.57	-0.58	-0.76	-0.65	-0.66	-0.56	-0.50	-0.77	-0.52	-0.59	-0.60	-0.38		-0.91	-0.28
	0.56	0.46	0.61	0.67	0.57	0.54	0.61	0.35	0.52	0.49	0.67	0.45	0.88	0.94		0.95	0.88
	-0.10	-0.12	-0.20	0.03	-0.11	-0.06	-0.09	0.06	0.01	0.02	-0.02	-0.01	0.47	0.45	0.38		0.44
CD	-0.57	-0.82	-0.82	-0.61	-0.84	-0.81	-0.64	-0.62	-0.66	-0.32	-0.69	-0.43	-0.58	-0.09	-0.91		-0.29
	0.56	0.69	0.68	0.58	0.68	0.70	0.47	0.42	0.32	0.66	0.62	0.48	0.92	0.90	0.95		0.91
	-0.17	-0.16	-0.15	-0.07	0.01	-0.25	0.04	0.00	-0.02	-0.01	0.04	-0.03	0.38	0.48	0.36	0.44	
CI	-0.49	-0.76	-0.58	-0.71	-0.85	-0.69	-0.68	-0.66	-0.73	-0.82	-0.64	-0.80	-0.60	-0.35	-0.28	-0.29	
	0.56	0.53	0.55	0.54	0.70	0.62	0.32	0.41	0.52	0.66	0.75	0.60	0.81	0.88	0.88	0.91	

*The three entries for each cell of the matrix are, from top to bottom, the median r, the minimum r, and the maximum r, respectively. Included in compilation of correlation between measures are each of the correlations for each subject for each session.

Table 4

Varimax-Rotated Factor Pattern of Mood State, Trait, and CPCS Variables

Rotated Factor Pattern

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
PT	0.88443	-0.03925	0.12074	0.08720
PD	0.90963	0.01529	-0.14058	-0.07846
PA	0.92852	0.06267	0.00835	-0.02001
PV	0.03739	0.22015	0.77607	-0.08305
PF	0.83631	-0.08197	-0.12982	-0.00886
PC	0.87294	-0.09682	-0.21051	0.00683
MA	0.79518	-0.07441	0.09729	0.04828
MD	0.77561	0.06672	-0.18440	0.02618
MH	0.77078	-0.00585	0.02471	0.08299
MPA	-0.10927	0.13048	0.81019	-0.11337
MSS	-0.17229	0.41781	0.76276	0.01866
IE	0.09141	-0.17642	-0.16377	0.94131
CR	0.03029	0.85882	0.19664	-0.19213
CSA	-0.04214	0.88108	0.15995	0.06741
CIS	-0.04674	0.86429	0.17063	0.08378
CD	0.08143	0.86037	0.19816	-0.28329
CI	-0.07247	0.88864	0.09576	-0.06205

Variance explained by each factor

FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
5.829379	4.093803	2.148773	1.062930

Final Communality Estimates: Total = 13.134885

PT	PD	PA	PV
0.805937	0.853582	0.866545	0.659051
PF	PC	MA	MD
0.723071	0.815767	0.649647	0.640715
MPA	MSS	IE	CR
0.698233	0.786397	0.952364	0.814063
CSA	CIS	CD	CI
0.808209	0.785319	0.866390	0.807958

Key:

POMS Tension (PT)
POMS Depression (PD)
POMS Anger (PA)
POMS Vigor (PV)
POMS Fatigue (PF)
POMS Confusion (PC)
MAACL-R Anxiety (MA)
MAACL-R Depression (MD)
MAACL-R Hostility (MH)
MAACL-R Positive Affect (MPA)
MAACL-R Sensation Seeking (MSS)
Rotter's IE Scale (IE)
CPCS Readiness (CR)
CPCS Self-Assessment (CSA)
CPCS Information Seeking (CIS)
CPCS Deciding (CD)
CPCS Implementing (CI)

conclusion that the mood measures varied together over time, but not with the measure of locus of control.

A closer examination of the scales loading on Factors 1 and 3 reveals that those loading on Factor 1 seem to represent measures with a more negative tone: the POMS Tension (PT), POMS Depression (PD), POMS Anger (PA), POMS Fatigue (PF), POMS Confusion (PC), MAACL-R Anxiety (MA), MAACL-R Depression (MD), and MAACL-R Hostility (MH). On the other hand, those loading on Factor 3 seem to have a more positive tone: the POMS Vigor (PV), MAACL-R Positive Affect (MPA), and the MAACL-R Sensation Seeking (MSS), though the latter (i.e., the MSS) has an appreciable loading on Factor 2 along with all five scales of the CPCS.

Correlation of Mood and Career Decision Making Self-Efficacy

The relationship between mood and career decision making self-efficacy was examined in a manner similar to that used to examine the correlation of the mood measures over sessions. As can be seen in Table 2, there were considerably more significant correlations between the POMS and the total career decision making self-efficacy measure obtained from the CPCS than between the MAACL-R and the total career decision making self-efficacy measure. The results of the Wilcoxon matched-pairs signed-ranks tests showed that the POMS and the MAACL-R had a higher proportion of significant correlations than was found between the MAACL-R and the total career self-efficacy

measure, $T = 38.0$, $P < .01$. However, the results also indicated that the proportion of significant correlations between the POMS and the MAACL-R and the POMS and the total career decision making self-efficacy measure (CPCS total) was not significant, thus indicating that there was some tendency for the mood scores and the CPCS scores to vary together.

Examination of the relation between mood and career decision making self-efficacy using factor analysis confirmed that there was a significant loading of the MAACL-R sensation seeking scale along with all five of the separate CPCS career decision making self-efficacy scales on Factor 2 even though there was a higher loading of all three of the positive mood measures on Factor 3 (see Table 4).

Further examination of the relationship between mood and career self-efficacy using a career decision making self-efficacy total score (CT), along with all of the mood and locus of control measures, confirmed a significant relation between positive mood and career decision making self-efficacy. As shown on Table 5, the results of a second factor analysis using the CT scores revealed three significant factors. The first factor again had all of the measures of the POMS and the MAACL-R that represent negative mood states loaded on it. The second factor had all of the measures of the POMS and the MAACL-R that

Table 5

Varimax-Rotated Factor Pattern of Mood State, Trait, and Career Decision Making Self-Efficacy Total Variables

Rotated Factor Pattern

	FACTOR 1	FACTOR 2	FACTOR 3
PA	0.92962	0.02962	-0.01619
PD	0.91037	-0.12633	-0.05957
PT	0.88083	0.09774	0.14698
PC	0.86892	-0.23137	0.06954
PF	0.83341	-0.15414	0.04580
MA	0.79291	0.03660	0.07153
MD	0.78054	-0.14682	-0.05796
MH	0.77184	0.00800	0.03900
MSS	-0.16151	0.87214	-0.10622
PV	0.03837	0.81096	-0.00931
MPA	-0.10838	0.76235	-0.09478
CT	0.02141	0.55330	-0.49417
IE	0.08112	-0.14391	0.90961

Variance explained by each factor

FACTOR 1	FACTOR 2	FACTOR 3
5.798440	2.452958	1.134298

Final Communality Estimates: Total = 9.385696

PT	PD	PA	PV
0.807023	0.848277	0.865324	0.659222
PF	PC	MA	MD
0.720433	0.813386	0.635155	0.634154
MH	MPA	MSS	IE
0.597325	0.601910	0.797990	0.854687
CT			
0.550809			

Key:

POMS Tension (PT)
POMS Depression (PD)
POMS Anger (PA)
POMS Vigor (PV)
POMS Fatigue (PF)
POMS Confusion (PC)
MAACL-R Anxiety (MA)
MAACL-R Depression (MD)
MAACL-R Hostility (MH)
MAACL-R Positive Affect (MPA)
MAACL-R Sensation Seeking (MSS)
Rotter's IE Scale (IE)
CPCS Career Decision Making Self-Efficacy Total (CT)

represent positive mood states loaded on it, along with the CPCS career decision making self-efficacy (CT) measure. The locus of control measure (IE) again loaded separately on Factor 3.

These results indicate a high positive correlation between the positive mood states, that is, the POMS Vigor (PV), the MAACL-R Sensation Seeking (MSS), and the MAACL-R Positive Affect (MPA) and the measure of total career decision making self-efficacy (CT) from the CPCS.

CHAPTER 5

Discussion

Summary of Results

The results of the present study suggest that moods, as measured by the POMS and MAACL-R, i.e., Tension-Anxiety, Depression-Dejection, Anger-Hostility, Vigor-Activity, Fatigue-Inertia, Confusion-Bewilderment (POMS) and Anxiety, Depression, Hostility, Positive Affect, Sensation Seeking (MAACL-R), do vary over relatively short periods of time in normal, young adolescents. These mood changes were observed during the twice-a-week testing schedule throughout the six-week testing period and were apparent in the raw scores obtained on the POMS and MAACL-R.

Findings of this study further indicate that the mood instruments themselves, the POMS and the MAACL-R, were sensitive enough to detect these day-to-day or week-to-week changes in mood states and that measures from these instruments varied together. This was evidenced by an examination of the raw data and by the large number of significant correlations between these measures.

Together these results would suggest that both the POMS and the MAACL-R are instruments that can be successfully utilized to measure the mood states of young adolescents as well as the variation of these mood states over time (i.e., from day to day or week to week). These observations are consistent with information provided by the developers of each of the two instruments. Comment [1]

on their usefulness, McNair et al. (1971) state that the Thorndike-Lorge (1944) word lists were consulted to restrict the adjectives in the POMS to those which an average individual can understand. The developers of the POMS (McNair et al., 1971) further report that "typically, persons with at least a seventh grade education have little difficulty in understanding the POMS" (p. 5). Similarly, the developers of the MAACL-R (Zuckerman & Lubin, 1985) state that the words in the MAACL-R were chosen for a maximal eighth grade reading level. Thus, to insure that the eighth graders taking part in the present study did, in fact, understand the words used on both the mood instruments, as well as those used on the IE Scale and the CPCS, a practice session was conducted several days before the actual six-week testing period began in which all students were allowed to ask any questions that they had concerning the instruments. These questions included, and mostly consisted of, word definitions. However, by the end of the practice session all participants appeared to understand all of the words on both instruments.

These mood state reactions were also seen to be independent of the measure of locus of control (IE Scale) which did not vary with any of the mood measures over the testing period. There were, as expected, few correlations between the mood measures and the IE Scale, which was included as a measure of a different and a more stable attribute. The present results confirm the results obtained

by Pinkston et al. (1992) when working with adult subjects. These results further supported the conclusion that the mood instruments were measuring state variation, while a measure considered to be a more stable trait was remaining relatively constant within subjects over the testing sessions. There were, however, variations in locus of control between subjects--even in these young adolescent students--that would be expected due to individual differences. The individual differences in IE scores are consistent with those suggested by Rotter (1966) who introduced the concept of locus of control.

Additionally, the results of this study revealed a correlation between measures of career decision making self-efficacy and of mood. There was a fairly large number of significant correlations between the mood measures obtained on the POMS and the MAACL-R and of the measures of career decision making self-efficacy obtained on the CPCS. Thirteen of the 22 subjects had more than one significant correlation between POMS and CPCS measures. Nine subjects had more than one significant correlation between MAACL-R and CPCS scores. This finding is well above the proportion that would be expected by chance. A correlation was further indicated when Wilcoxon matched-pairs signed-ranks tests indicated no significant difference in the proportions of significant correlations between the POMS and the MAACL-R and the POMS and the total career decision making self-

efficacy measure (CPCS total). These tests indicated a tendency for the mood scores and the CPCS scores to covary.

Further examination of the relationship between mood and career decision making self-efficacy, using factor analysis, confirmed that a correlation between the positive mood measures and the CPCS total did exist in the present study. This relationship was evidenced by a significant loading of all three positive mood measures across both mood instruments along with the career decision making self-efficacy total score (CT) from the CPCS on the same factor.

A final question addressed was: Would mood variations in these students be matched by similar variations in career decision making self-efficacy? A correlation was found between measures of positive mood and career decision making self-efficacy, but there was little correlation between negative moods and career decision making self-efficacy.

Since an objective of the present study was to consider the usefulness of the POMS and the MAACL-R to predict levels of career decision making self-efficacy, the discovery of this relationship between positive moods and the CPCS total was of particular interest. Specifically, the results indicate that only the positive mood measures on these tests appear to be predictive of levels of career decision making self-efficacy. It should also be noted that

studies with other age groups in different settings might lead to different results.

Implications for Theory

As suggested by Bandura (1977), emotional arousal, along with performance accomplishments, vicarious experiences, and verbal persuasion, has an impact on self-efficacy. Bandura (1986), commenting on the research of Bower (1981, 1983), further suggests that mood states can affect cognitive processing and retrieval of experiences. In short, people learn things faster that are congruent with the mood they are in, and they can recall things better if they are in the same mood as when they learned them. This mood-biased recollection is seen as a factor that affects people's judgments of their personal efficacy. Bandura (1986) further states, "If a sad mood readily leads to thoughts of past failings, self-percepts of efficacy will be diminished, whereas if a positive mood activates thoughts of accomplishments, perceived self-efficacy will be boosted" (p. 408). Other evidence appears to be consistent with this view. Kavanagh and Bower (1985) indicate that people judge their capabilities in social, academic, and athletic pursuits higher under hypnotically-induced positive mood than under a neutral state, and they regard themselves as least self-efficacious in a negative mood.

The results of the present study indicate that emotional arousal (i.e., mood states) also has an impact on

career decision making self-efficacy and that there is a tendency for career decision making self-efficacy to be high when positive mood is high. Career decision making self-efficacy was also seen to vary within subjects over time and to covary with the measures of positive mood which also varied over time. With this study and its results, our knowledge of the processes involving mood variation, its measurement over time, and its relation to this sub-area of career decision making (specifically career decision making self-efficacy) has been increased.

In contrast to the findings of Bandura (1986), as well as those of Kavanagh and Bower (1985), high levels of negative mood states did not appear to affect career decision making self-efficacy in this study. Only positive mood states seemed to be associated with high career decision making self-efficacy while high levels of negative mood states appeared not to affect career decision making self-efficacy. It was expected prior to this study that high negative mood measures would be accompanied by low levels of career decision making self-efficacy. This relationship would have been evidenced by a high negative correlation between negative mood scores from the POMS and/or MAACL-R and the CPCS scores. The fact that this negative relationship did not exist is considered to be an important finding in this study as well. It is suggested that interventions aimed at increasing positive mood states

could be considered effective ways to increase career decision making self-efficacy in this age group.

In addition to mood, it is also suggested that this study adds to our knowledge of the measurement of self-efficacy as it applies to career decision making. Thus, the present study, using a relatively new instrument to measure career decision making self-efficacy in young adolescents, is a partial response to Betz and Hackett (1986), as well as Lent and Hackett (1986), who called for more attention to the measurement of self-efficacy and to the expansion of studies into a wider variety of career behaviors. It was generally observed in the present study that the Career Planning Confidence Scale (CPCS), which included five separate measures of career decision making self-efficacy plus a total career self-efficacy score (derived by summing the five separate scores), seemed to be an acceptable instrument to use for the age group examined in this study (i.e., 13-year-old young adolescents). These are the first reported data that have been collected using the CPCS with this population or age group. It was further observed during the practice session that the eighth grade participants in this study had little difficulty identifying with the questions on the CPCS. Even though some of the questions on the subsections of the CPCS tend to be directed toward skills or behaviors more often identified or performed by older age groups, these young

adolescents seemed to have adequate understanding of these areas to rate their levels of confidence appropriately.

Concerning the measurement of career decision making self-efficacy, it is suggested that the CPCS may be an important "second step" in the attempt to use and measure constructs derived from a perspective of social learning. This follows Robbins' (1985) suggestion that the Career Decision Making Self-Efficacy Scale (CDMSES) was an important first step in this direction. However, the report that the CDMSES had failed to provide a consistent factor structure (Robbins, 1985; Taylor & Betz, 1983) prompted work on the CPCS (Pickering et al., 1992). Thus, the five scales included on the CPCS were developed using a rational process. Originally beginning with 51 items, the CPCS was reduced to 46 items and five scales using factor analysis. These scales were named as follows: Readiness Confidence, Self-Assessment Confidence, Information-Seeking Confidence, Deciding Confidence, and Implementing Confidence.

The findings of the present study indicate that high levels of positive mood such as those measured by the POMS and the MAACL-R (i.e., vigor, sensation seeking, and positive affect) were significantly predictive of high levels of career decision making self-efficacy in the young adolescents who participated in the study. These results add to the work of Downing and Dowd (1988) who identified psychological traits along with demographic characteristics, social learning experiences, and personal

characteristics as predictors of career indecision. It is now suggested, based on the results of the present study, that psychological states (such as mood states) may also be such a predictor. Further studies examining the effects of mood states, such as vigor, sensation seeking, and positive affect, on career decision making self-efficacy and ultimately on career decision making or career indecision are suggested. These studies may include manipulation of positive moods as an intervention aimed at increasing career decision making self-efficacy. This type of research could also include an examination of how decision making self-efficacy affects decisions made by individuals when answering career skills and interest inventories. The contribution of career decision making self-efficacy as a mediator variable between emotional arousal (mood) and career-related decisions could be further explored by this type of research, with possible implications to theory.

Implications for Practice

One implication of this study is that counselors should be aware of the mood states of their students in order that the effects of these moods can be considered. That is, in the school setting, guidance counselors--who normally are interested in how their students (or clients) feel--might also be concerned with the emotional states of their students when career development activities are contemplated. Specifically, it is suggested that counselors should be especially aware of the levels of positive mood

states when career-related questions are asked of students and/or when career skills and inventories such as the Self-Directed Search (SDS), Career Targets (CT), or other instruments are administered. It would appear that positive mood states can influence how students feel about their ability to answer these inventories in a meaningful way.

If self-efficacy does affect how students feel about engaging in these tasks (such as answering career inventories), it would seem appropriate that counselors seek a time when career decision making self-efficacy is high. Using techniques to detect high levels of positive mood states could be one way to predict high career decision making self-efficacy. This approach could also be a time-saving method since administration of instruments such as the CDMSES or the CPCS may require more time than the typical school counselor has available for such activity.

Furthermore, it is suggested that students' self-efficacy to answer career measures in a meaningful way could vary, thus producing different outcomes or results when career measures are used. As stated, the results of the present study indicate that school guidance and career counselors should be sensitive to the mood states of their clients. The use of a POMS or MAACL-R prior to testing is one possible way to obtain this information. Another simpler and more practical way to assess these positive mood states would be for the counselor to develop a

questionnaire using only the positive mood measures from the POMS and the MAACL-R which could be used with young adolescent students. This is possible since the results of this study indicated that high levels of negative mood states did not have a significant effect on career decision making self-efficacy. Thus, as stated previously, these results indicate that the career or guidance counselor should look for high levels of positive mood states at the time of testing to predict high levels of career decision making self-efficacy and that the presence of high negative mood states accompanied by high levels of positive moods should not affect this aspect of self-efficacy.

Some possible limitations should also be considered when interpreting the results of this study. First, a relatively small number of students took part in the study. These students were the experimentally accessible population in this particular school system. A larger number of students taking part in the study would have been desirable and might have produced different results. The second factor is that students in only one setting were tested. Similar studies in other schools, other school settings, and in other school systems could also add in a valuable way to the results acquired in this study. Finally, as suggested by Krumboltz (1979), it is a combination of factors and interactions of these factors that ultimately lead to decisions concerning occupational preferences. These factors include genetic factors,

environmental conditions, learning experiences, cognitive and emotional responses, and performance skills that produce movement along one career path or another. The full contribution of mood states (or emotional arousal) to this process is yet to be determined. Thus, additional research in this area is suggested.

Recommendations for Further Research

As stated by Bangley (1992), there is a need to apply research findings to career counseling methods used in the public schools. School researchers and practitioners should be involved in and aware of this research. Practitioners should also strive to learn more about how their services could be improved by the application of the findings of such research. It is hoped that such research, including the findings of this study, will have a positive impact on the career services provided by guidance counselors and ultimately on the populations which they serve.

Additional studies examining the measurement of career decision making self-efficacy, its variability, and its relation to mood state variation, as well as other variables, such as encouragement, personal experience, and vicarious experiences, that may contribute to self-efficacy in this population, are also recommended. These studies could include, but not be limited to, studies which examine the relation and/or the relative contribution of these variables to emotional arousal (mood) as well as their contributions to self-efficacy.

Based on the results of the present study, it is suggested that similar studies be conducted using rising high school seniors, college undergraduates, and adults in career transition, respectively, as subjects. It is also suggested that other tasks or characteristics be compared to mood variation such as decision making or learning tasks.

The overall purpose of these suggested studies as well as the type of research that is presented in this study is, as always, that of adding to our knowledge of some aspect of human behavior and ultimately applying this knowledge. As stated, this study has added to our knowledge of mood state variation over time, its measurement over time, and its relationship, in this case, to the very complex characteristic of career decision making self-efficacy. Specifically, the present study has examined these processes as they have occurred in a group of eighth grade students in a large, urban middle school setting. These final comments are intended to apply to career work that could begin as early as young adolescence and ultimately affect both secondary and post secondary educational choices.

To further aid in the process of continuing career guidance research, it is also suggested that more attention be given to the measurement of career decision making self-efficacy in middle/junior high school students. The Career Planning Confidence Scale (CPCS), which was utilized in

this study, appeared to be a useful instrument for this purpose. A recent report entitled Exemplary Career Guidance Programs: What Should They Look Like? by Maddy-Bernstein and Cunanan (1995) further illustrates the usefulness of the CPCS with this age group. Their report includes at least four of the five areas of competencies that are addressed on the CPCS as being important for middle school students. These areas are: (1) knowledge of the benefits of educational achievement to career opportunities, (2) skills to locate, understand, and use career information, (3) understanding the process of career planning, and (4) knowledge of different occupations and changing male/female roles. The CPCS scales that measure individuals' confidence (or self-efficacy) in these areas, respectively, are: (1) Readiness to Make a Career Decision, (2) Information Seeking, (3) Deciding, and (4) Implementing Your Decision. Further development of this and other instruments to access middle school students' career decision making self-efficacy is strongly encouraged.

The competencies included on the CPCS are also consistent with those that could be expected during the career exploration stage suggested by Super (1957) which typically occurs during early adolescence. It would appear that the vocational development tasks that were seen to be appropriate for young adolescents and were emphasized by Super (1951), Zaccaria (1970), Osipow (1983), as well as outlined by Lock (1988), are also consistent with those

included on the CPCS. These tasks include expressing a generalized career preference. Such preference naming can be enhanced by behaviors directed at obtaining career information and planning for the preferred occupation. The measurement of the young adolescent's self-efficacy to perform these and other career-related tasks in a meaningful way is an important element in increasing our knowledge of these processes and how they may relate to mood variation and other variables.

As this and other research contributes to our knowledge of these processes and this knowledge contributes to more effective career guidance programs for young adolescents, the decisions that students make in the eighth grade concerning the type of high school program to enter might be made with a higher level of confidence. These decisions could and likely will include whether to enter programs such as Tech Prep and School-to-Work which are intended to prepare students for a meaningful transition from school to career.

Conclusion

It is hoped that this mood variation and career decision making self-efficacy study will, in fact, stimulate additional studies in the area of career guidance and counseling. Traditional approaches which tend to administer career skills and interest inventories only once during a school year, if that, might not be obtaining the degree of accuracy desired since the moods and career

decision making self-efficacy of students have been seen to vary from day to day or week to week. As stated, the results of this study indicate that mood states may affect the way that students feel about their ability to perform career-related tasks including how they feel about answering career questions in a meaningful way. This is consistent with Bandura's (1977) findings concerning emotional arousal and self-efficacy.

Students' attitudes as well as their moods do appear to be related to their career decision making. The results of this study indicate that the effect on career decision making behavior might be predicted by career decision making self-efficacy. The results further indicate that career decision making self-efficacy varies along with students' positive mood states but is not affected by negative mood states. Additional research which could add further to our understanding of these processes and thus contribute to improved urban career guidance programs is strongly suggested.

References

Alkov, R. (1988). NASA workshop in June of 1987. Langley Research Center: Hampton, Virginia.

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). 4th ed. Washington, DC: American Psychiatric Association, 1994.

Angus, R. G., & Heslegrane, R. J. (1985). Effects of sleep loss on sustained cognitive performance during a command and control simulation. Behavior, Research Methods, Instruments and Computers, 17, 55-67.

Balazs, E. K. (1975). Psycho-social study of outstanding athletes. Research Quarterly, 46, 267-273.

Bandura, A. (1977a). Social Learning Theory. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1977b). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84 191-215.

Bandura, A. (1982). Self-efficacy theory in human agency. American Psychologist, 37, 122-147.

Bandura, A. (1984). Recycling misconceptions of perceived self-efficacy. Cognitive Therapy and Research, 8, 231-256.

Bandura, A. (1986). Social Foundations of Thought and Action: A Social Cognitive Theory. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A., & Adams, N. E. (1977). Analysis of self-efficacy theory of behavioral change. Cognitive Therapy and Research, 4, 287-310.

Bangley, B. B. (1992). A comparison of self-efficacy and informational career counseling with undecided high school seniors. Unpublished dissertation. Old Dominion University (1992).

Betz, N. E., & Hackett, G. (1986). Applications of self-efficacy theory to understanding career choice behavior. Journal of Social and Clinical Psychology, 4, 279-289.

Bonnet, M. H. (1985). Effect of sleep disruption on sleep, performance, and mood. Sleep, 8, 11-19.

Bower, G. H. (1981). Mood and memory. American Psychologist. 36, 129-148.

Bower, G. H. (1983). Affect and cognition. Philosophical Transactions of the Royal Society of London (Series B), 302, 387-402.

Chaplin, W. F., John, O. P., & Goldberg, L. R. (1988). Conceptions of states and traits: Dimensional attributes with ideals as prototypes. Journal of Personality and Social Psychology, 54, 541-557.

Crites, J. O. (1961). A model for the measurement of vocational maturity. Journal of Counseling Psychology, 8, (3), 255-259.

Crites, J. O. (1965). Measurement of vocational maturity in adolescence: I. Attitude Test of the Vocational

Development Inventory. Psychological Monographs, 1965, 79, (2, Whole No. 595).

Crites, J. O. (1969). Vocational Psychology. New York: McGraw-Hill.

Derlega, V. J., Winstead, B. A., & Jones, W. H. (1991). Personality: Contemporary theory and practice. Chicago: Nelson-Hall.

Downing, K. R., & Dowd, E. T. (1988). Career indecision: A summary of the research and implications for counseling. British Journal of Counseling, 16 (2), 145-155.

Driscoll, J. M. (1970). Effects of 48 hours of continuous sleep loss on sustained performance. Psychological Responses to Continuous Work Under Conditions of Sleep Loss (pp. 67 C-I), Louisville, KY: Performance Research Lab., University of Louisville.

Erikson, E. H. (1963). Childhood and society (2nd ed.). New York: Norton.

Eysenck, H. J., & Eysenck, B. G. (1968). Manual for the Eysenck Personality Inventory. San Diego: Educational and Industrial Testing Service.

Gelatt, H. B., Varenhorst, B., Carey, R., & Miller, G. P. (1973). Decisions and Outcomes. New York: College Entrance Examination Board.

Ginzberg, E., Ginzberg, S. W., Axelrod, S., & Herma, J.L. (1951). Occupational choice: An approach to general theory. New York: Columbia University Press.

Ginzberg, E. (1972). Toward a theory of occupational choice: A restatement. The Vocational Guidance Quarterly, 20, 169-176.

Ginzberg, E. (1984). Career development. In D. Brown & L. Brooks (Eds.), Career choice and development. San Francisco: Jossey-Bass.

Goldfried, M. R., & Robins, C. (1982). On the facilitation of self-efficacy. Cognitive Therapy and Research, 6, 361-380.

Goodstein, L. D. (1965). Behavior theoretical views of counseling. In B. Steffie (Ed.), Theories of counseling. New York: McGraw-Hill.

Gravelle, L., Searle, R., & St. Jean, P. (1982). Personality profiles of Canadian women's national volleyball team. In L. Wankel & R. B. Wilberg (Eds.), Psychology of Sport and Motor Behavior: Research and Practice. Proceedings of the meeting of the CSPLSP, Edmonton, Alberta, 1982.

Hackett, G., & Betz, N. E. (1981). A self-efficacy approach to the career development of women. Journal of Vocational Behavior, 18 326-339.

Haslem, D. R. (1984). The military performance of soldiers in sustained operations. Aviation, Space, and Environmental Medicine, 55, 216-221.

Haslem, D. R. (1985). Sleep deprivation and naps. Behavior, Research Methods, Instruments and Computers, 17 46-54.

Havighurst, R. J. (1968). The middle school child in contemporary society. Theory into Practice, 7, 120-122.

Herr, E. L., & Cramer, S. H. (1988). Career guidance and counseling through the life span. (3rd ed.). Boston: Little, Brown.

Highlen, P. S., & Bennett, B. (1979). Psychological characteristics of successful and nonsuccessful elite wrestlers: An exploratory study. Journal of Sport Psychology. 123-137.

Holland, V. L., & Holland, J. E. (1977). Vocational indecision: More evidence and speculation. Journal of Counseling Psychology, 24, 404-414.

Jackson, C. W., Larry, W., & Kirby, R. H. Psychological tracking related to performance outcomes for elite athletes over a stressful competitive season. Unpublished research paper. Old Dominion University, (1981).

Kagan, J., & Coles, R. (Eds.). (1972) Twelve to sixteen: Early adolescence. New York: Norton.

Kaplan, D. M., & Brown, D. (1987). The role of anxiety in career indecisiveness. The Career Development Quarterly 148-161.

Katz, M., Norris, L., & Pears, L. (1977). Simulated occupational choice: A diagnostic measure of competencies in career decision making. Journal of Measurement and Evaluation in Guidance, 10, 222-228.

Kavanagh, D. J., & Bower, G. H. (1985). Mood and self-efficacy: Impact of joy and sadness on perceived capabilities. Cognitive Theory and Research. 9, 507-525.

Kesner, P. M. (1977). A comparison of guidance needs expressed by preadolescent and early adolescent students. E. D. dissertation, DeKalb: Northern Illinois University.

Krumboltz, J. D. (1979). A social learning theory of career decision making. In A.M. Mitchell, G. B. Jones & J. D. Krumboltz (Eds.), Social Learning and Career Decision Making. Cranston, RI: The Carroll Press.

Krumboltz, J. D., & Baker, R. D. (1973). Behavioral counseling for vocational decisions. In H. Borow, (Ed.), Career guidance for a new age. Boston: Houghton-Mifflin.

Landy, F. J., & Stern, R. M. (1971). Factor analysis of a somatic perception questionnaire. Journal of Psychosomatic Research, 15, 179-181.

Larsen, R. J., Diener, E., & Emmons, R. A. (1985). An evaluation of subjective well-being measures. Social Indicators Research, 17, 1-18.

Lent, R. W., & Hackett, G. (1986). Career self-efficacy: Empirical status and future directions. Journal of Vocational Behavior, 30, 347-382.

Lock, R. D. (1988). Taking charge of your career direction. Pacific Grove, CA: Brooks-Cole.

Loke, W. H., Hinrich, J. V., & Ghoneim, M. M. (1985). Caffeine and diazepam: Separate and combined effects on

mood, memory, and psychomotor performance. Psychopharmacology, 87, 344-350.

Lubin, B. (1967). Manual for the Depression Adjective Checklist. Educational and Industrial Testing Service. San Diego, California.

Lubin, B., Zuckerman, M., & Woodward, L. (1983). Bibliography for the Multiple Affect Adjective Check List. San Diego, CA: Educational and Industrial Testing Service.

Maddux, J. E., Stanley, M. A., & Manning, M.M. (1987). Self-efficacy theory and research: Applications in clinical and counseling psychology. In J. E. Maddux, C. D. Stolenberg, & R. Rosenwein (Eds.), Social processes in clinical and counseling psychology. New York: Springer-Verlag.

Maddy-Bernstein, C., & Cunanan, E. (1995). Exemplary Career Programs: What Should They Look Like? Berkeley, CA: National Center for Research in Vocational Education, University of California, August.

Malumphy, T. M. (1968). Personality of women athletes in intercollegiate competition. Research Quarterly, 39, 610-620.

Manning, L. (1993), Developmentally appropriate middle level schools. Wheaton, MD: Association for Childhood Education International.

Martens, R. (1977). Sport competition anxiety test. Champaign: Human Kinetics Publishers.

McCaughey, B. G. (1986). The psychological symptomatology of a U.S. Naval disaster. Military Medicine, 151, 182-165.

McNair, D. M., & Lorr, M. (1964). An analysis of mood neurotics. Journal of Abnormal Social Psychology, 69, 620-624.

McNair, D. M., Lorr, M., & Droppleman, L. F. (1971). Profile of Mood States Manual. Educational and Industrial Testing Services. San Diego, California.

Morgan, W. P. (1980). The trait psychology controversy. Research Quarterly for Exercise, 51, 50-76.

Morgan, W. P., & Pollock, M. L. (1977). Psychologic characterization of the elite distance runner. Annals of the New York Academy of Science, 382-403.

Morgan, W. P., & Johnson, R. W. (1978). Personality characteristics of successful and unsuccessful oarsmen. International Journal of Sports Psychology, 9, 119-133.

Nagle, F. J., Morgan, W. P., Herrickson, R. O., Serfas, R. C., & Alexander, J. F. (1975). Spotting success trait in Olympic contenders. Physician and Sports Medicine, 31-34.

National Occupational Information Coordinating Committee, U.S. Department of Labor. (1992). The national career development guidelines project. Washington, DC: U.S. Department of Labor.

Newman, J. L., Fuqua, D. R., & Minger, C. (1990). Further evidence for the use of career subtypes in defining

career status. The Career Development Quarterly, 39, 178-188.

Osipow, S. H. (1983). Theories of career development (3rd ed.). New York: Appleton-Century-Crofts.

Osipow, S. H., Carney, C. G., Winer, J. L., Yanico, B., & Koschier, M. (1976). The Career Decision Scale. (3rd rev. ed.). Columbus, OH: Marathon Consulting and Press.

Peterson, S. L., Weber, J. C., & Trousdale, W. W. (1967). Personality traits of women in team sports versus women in individual sports. Research Quarterly, 38, 686-690.

Pickering, W., Calliotte, W., & McAuliffe, G. (1992). Career Planning Confidence Scale. Old Dominion University. Norfolk, Virginia.

Pinkston, W. T., Kirby, R. H., & Coates, G. D. The measurement of mood variation over time and its relation to performance. Unpublished research paper. Old Dominion University, (1992).

Robbins, S. D. (1985). Validity estimates for the Career Decision Making Self-Efficacy Scale. Measurement and Evaluation in Counseling and Development, 18, 64-71.

Rotter, J. B. (1954). Social learning and clinical psychology. Englewood Cliffs, NJ: Prentice Hall, 1954.

Rotter, J. B. (1966). General expectancies for internal versus eternal control of reinforcement. Psychological Monograms, 1966, 80 (1, whole No. 609).

Salomone, P. R. (1982). Difficult cases in career counseling: II. The indecisive client. The Personnel and Guidance Journal, 60, 496-500.

Siegel, S., & Castellan, J. (1988). Nonparametric Statistics for the Behavioral Sciences (2nd ed.) Two Independent Samples (pp. 87-95) New York, NY: McGraw-Hill Book Company.

Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. (1970). Manual for the State-Trait Anxiety Inventory. Consulting Psychologists. Palo Alto, California.

Stumpf, S. A., Brief, A. P., & Hartman, K. (1987). Self-efficacy expectations and coping with career-related events. Journal of Vocational Behavior, 31, 91-108.

Super, D. E. (1951). Vocational adjustment: Implementing a self-concept. Occupations, 30, 88-92.

Super, D. E. (1957). The psychology of careers. New York: Harper & Row.

Super, D. E. (1990). A life-span, life-space approach to career development. In D. Brown & L. Brooks Eds., Career choice and development: Applying contemporary theories to practice, pp. 197-261. San Francisco: Jossey-Bass.

Taylor, K. M., & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. Journal of Vocational Behavior, 22, 63-81.

Taylor, K. M., & Pompa, J. (1990). An examination of the relationships among career decision making self-efficacy, career salience, locus of control, and vocational indecision. Journal of Vocational Behavior, 37, 17-31.

Thoreson, C. E., & Ewart, C. K. (1976). Behavioral self-control and career development. Counseling Psychologist, 6, 29-43.

Thornburg, H. (1983a). Can educational systems respond to the needs of early adolescents? Journal of Early Adolescence, 3, 32-36.

Thornburg, H. (1983b). Is early adolescence really a stage of development? Theory into Practice, 22, 79-84.

Thorndike, E. L., & Lorge, I. The Teacher's Word Book of 30,000 Words, New York: Columbia University Teachers' College. Bureau of Publications, 1944.

Tyler, L. E. (1961). Research explorations in the realm of choice. Journal of Counseling Psychology, 8, 195-201.

Van, Matre, G., & Cooper, S. (1984). Concurrent evaluation of career indecision and indecisiveness. The Personnel and Guidance Journal, 62, 637-639.

Vondracek, F. W., Hostetler, M., Schulenberg, J. E., & Shimizu, K. (1990). Dimensions of career indecision.

Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. Psychological Bulletin, 96, 475-490.

Wessman, A. E., & Ricks, D. F. (1966). Mood and personality. New York: Holt.

Williams, J. M., Holpner, B. J., Moody, D. L., & Ogilvie, B. C. (1970). Personality traits of champion level female fencers. Research Quarterly, 41, 446-453.

Zaccaria, J. (1970). Theories of occupational choice and vocational development. Boston: Houghton Mifflin.

Zuckerman, M. (1960). The development of an affect adjective check list for the measurement of anxiety. Journal of Consulting Psychology, 24, 457-462.

Zuckerman, M., Lubin, B., Vogel, L., & Valerius, E. (1964). Measurement of experimentally induced affects. Journal of Consulting Psychology, 28, 418-425.

Zuckerman, M., Lubin, B., & Rinck, C. M. (1983). Construction of new scales for the Multiple Affect Adjective Check List. Journal of Behavioral Assessment, 5, 119-129.

Zuckerman, M., & Lubin B. (1985). Manual for the Multiple Affect Adjective Check List Revised. Educational and Industrial Testing Service. San Diego, California.

Zunker, V. G. (1994). Career counseling: Applied concepts of life planning. (4th ed.). Pacific Grove, CA: Brooks-Cole.

APPENDIX A

Subject Consent Form

SUBJECT CONSENT FORM

TITLE OF RESEARCH: The Measurement of Mood Variation Over Time and Its Relation to Career Decision Making Self-Efficacy in Young Adolescents

INVESTIGATOR: William T. Pinkston, Ph.D. Candidate
Darden College of Education
Old Dominion University

DESCRIPTION:

Several studies have been conducted investigating the measurement of mood variation over time and its relation to performance. The purpose of this study is to explore the relationship of mood variation over time and career decision making self-efficacy (i.e., one's beliefs about his/her ability to execute the behaviors required to make career-related choices or decisions).

I, _____, have agreed to participate as a subject in this study. I understand that I will be participating in a research project involving measurement of mood state variation, locus of control, and career decision making self-efficacy over time using four self-report surveys twice a week for six weeks. Each survey will take about five minutes to complete at each testing session. These four measures are the Profile of Mood States (POMS), the Multiple Affect Adjective Check List - Revised (MAACL-R), Rotter's IE Scale (locus of control), and the Career Planning Confidence Scale (CPCS).

EXCLUSIONARY CRITERIA:

I have been briefed on the four questionnaires and, to the best of my knowledge, am not aware of anything that would prohibit my participation in this study.

RISKS AND BENEFITS:

The testing procedures that I will undergo are strictly self-report inventories and should not result in any risk. However, if at any point during the course of this research I should choose not to continue to participate, I am free to withdraw from the study. I understand further that my efforts in this study are voluntary and that I will not receive any remuneration for this participation and that I will not incur any expenses associated with my participation.

CONFIDENTIALITY:

I understand that any information obtained about me from this research will be kept strictly confidential and that no names will be used on the questionnaires. I also understand that data derived from this study could be used in reports, presentations, and publications but that I will not be individually identified.

WITHDRAWAL PRIVILEGE:

As previously noted, I understand that I am free to refuse to participate in this study or withdraw at any time and that my decision to withdraw will not adversely affect my treatment at this school or cause a loss of benefits to which I might otherwise be entitled. I also realize that the investigators reserve the right to withdraw my participation at any time throughout this investigation if they observe any contradiction to my continued participation.

VOLUNTARY CONSENT:

I certify that I have read the preceding sections of this document or it has been read to me; that I understand the contents; and that any questions I have pertaining to the research have been, or will be, answered by William T. Pinkston (000-0000). If I have any concerns, I can express them to the Darden College of Education Faculty Governance Research and Scholarship Committee (Chairperson XXXXX XXXXXX, 000-0000). Questions or concerns can also be addressed to my teacher at XXXXXXXXX Middle School (XXXXXXX XXXXX, 000-0000). A copy of this informed consent has been given to me. My signature and that of my parent or legal guardian below indicates that I freely agree to participate in this study.

Subject's Signature	Date
Parent or Guardian's Signature	Date
Witness's Signature	Date

INVESTIGATOR'S STATEMENT:

I certify that I have explained to the subject, whose signature appears above, the nature and purpose of the potential benefits and possible risks (if any) associated with participation in this study. I have answered any questions that have been raised by the subject and have encouraged him/her to ask additional questions at any time during the course of this study.

Investigator's Signature	Date

APPENDIX B

POMS Factor Loadings

Tension-Anxiety (T) Oblique Factor Loadings in Six Studies (Decimals Omitted)

Item No.	Item	Study					
		1	2	3	4	5	6
2	Tense	64	60	52	60	56	54
10	Shaky	45	49	55	55	51	54
16	On edge	59	55	41	74	50	52
20	Panicky	-	29	-	49	35	32
22	Relaxed	-34	-43	-41	-47	-42	-39
26	Uneasy	34	37	30	69	44	48
27	Restless	28	46	56	61	45	42
34	Nervous	61	58	56	73	56	57
41	Anxious	34	36	40	61	49	38

Depression-Dejection (D) Oblique Factor Loadings in Six Studies

Item No.	Item	Study 1	2	3	4	5	6
5	Unhappy	58	32	56	41	38	36
9	Sorry	-	-	-	55	44	37
14	Sad	-	-	-	63	46	44
18	Blue	55	25	42	56	42	42
21	Hopeless	-	51	-	69	42	46
23	Unworthy	-	-	-	58	48	46
32	Discouraged	48	35	57	64	32	37
35	Lonely	46	30	42	58	38	42
36	Miserable	34	-	38	59	38	38
44	Gloomy	43	24	45	51	35	37
45	Desperate	-	32	-	39	34	38
48	Helpless	47	54	51	43	33	39
58	Worthless	58	45	55	62	44	45
61	Terrified	-	32	-	25	31	25
62	Guilty	-	34	-	49	42	41

Anger-Hostility (A) Oblique Factor Loadings in Six Studies

Item No.	Item	Study 1	2	3	4	5	6
3	Angry	57	53	57	57	62	66
12	Peeved	-	-	-	63	55	58
17	Grouchy	59	37	36	52	49	54
24	Spiteful	-	48	-	58	55	60
31	Annoyed	40	34	16	61	49	55
33	Resentful	-	49	-	62	60	59
39	Bitter	33	46	22	45	53	58
42	Ready to fight	50	56	50	36	60	62
47	Rebellious	-	-	-	24	49	54
52	Deceived	-	31	-	52	39	37
53	Furious	-	56	61	56	63	66
57	Bad-tempered	-	-	-	51	62	64

Vigor-Activity (V) Oblique Factor Loadings in Six Studies

Item No.	Item	Study					
		1	2	3	4	5	6
7	Lively	60	57	44	61	66	71
15	Active	54	52	33	72	71	73
19	Energetic	-	-	-	73	75	74
38	Cheerful	52	55	13	66	64	60
51	Alert	41	60	06	55	56	54
56	Full of pep	55	63	36	77	72	74
60	Carefree	37	33	27	54	45	51
63	Vigorous	54	61	42	80	70	68

Fatigue-Inertia (F) Oblique Factor
Loadings in Six Studies

Item No.	Item	Study					
		1	2	3	4	5	6
4	Worn-out	-	-	51	62	63	65
11	Listless	-	-	-	31	42	46
29	Fatigued	60	52	-	64	72	72
40	Exhausted	-	-	-	66	71	73
46	Sluggish	46	33	53	43	54	62
49	Weary	34	39	37	55	58	58
65	Bushed	-	-	-	60	68	74

Confusion-Bewilderment (C) Oblique Factor Loadings in Three Studies

Item No.	Item	Study		
		3	5	6
8	Confused	35	48	49
28	Unable to concentrate	49	53	51
37	Muddled	-	34	50
50	Bewildered	-	42	43
54	Efficient	-36	-39	-34
59	Forgetful	51	58	47
64	Uncertain about things	-	38	40

APPENDIX C

Median Factor Loadings for New MAACL Scales

Median Item Factor Loadings for New MAACL Scales

Anxiety (A)		Depression (D)		Hostility (H)		Positive Affect (PA)		Sensation Seeking (SS)	
Item	Load	Item	Load	Item	Load	Item	Load	Item	Load
afraid	.56	alone	.37	angry	.44	affectionate	.58	active	.34
fearful	.51	destroyed	.44	annoyed	.45	free	.61	adventurous	.37
frightened	.45	discouraged	.39	complaining	.45	friendly	.59	aggressive	.28
impatient	.42	forlorn	.51	critical	.45	glad	.70	daring	.32
nervous	.68	lonely	.45	cross	.58	good	.66	energetic	.38
panicky	.52	lost	.62	cruel	.50	good-natured	.63	enthusiastic	.46
shaky	.42	miserable	.47	disagreeable	.62	happy	.66	merry	.35
tense	.58	rejected	.50	disgusted	.58	interested	.60	wild	.32
timid	.34	sad	.53	enraged	.41	joyful	.64		
worrying	.53	suffering	.47	furious	.48	loving	.63	bored	-.20
		sunk	.49	hostile	.47	peaceful	.59	mild	-.44
		tormented	.58	incensed	.36	pleased	.68	quiet	-.47
				irritated	.51	pleasant	.63	tame	-.32
				mad	.47	polite	.61		
				mean	.41	satisfied	.61		
						secure	.58		
						steady	.54		
						tender	.63		
						understanding	.58		
						warm	.64		
						whole	.62		

APPENDIX D

Career Planning Confidence Scale

CAREER PLANNING CONFIDENCE SCALE [1]

Pickering, Calliotte, & McAuliffe

Effective planning for your career requires the accomplishment of a number of steps from being ready to make a decision, through understanding yourself and the world of work, to actually making a career decision and following through on it.

The Career Planning Confidence Scale (CPCS) is a measure of the confidence you have in your ability to carry out the tasks involved in each of these steps. It can be helpful to you and your counselor in determining any tasks that you may need to focus on in order to enable you to do your best career planning.

The person administering the CPCS will give you further instructions on how to answer the questions -- either through putting a circle around the appropriate response letter directly on the CPCS Booklet, or, if you have a computer scored answer sheet, through completely filling in the appropriate bubble with a #2 pencil.

Please begin by placing your name, social security number (in columns A - I on the computer scored answer form), gender, and birth date, in the areas marked either below on the CPCS Booklet or on the computer scored answer form. If you are using a computer scored answer form, please make no marks on the CPCS Booklet.

Answering **all** of the questions in the CPCS will give you the **most helpful results.**

Please complete the following information if you are <u>not</u> using a computer scored answer form.

NAME: _____ **SS#** ___-___-____

GENDER: **MALE** **FEMALE** **BIRTHDATE** ___/___/___
MM DD YY

2

Readiness to Make a Career Decision

		Not Confident At All	Somewhat Unconfident	Fairly Confident	Mostly Confident	Completely Confident
How confident are you that you are:						
1.	motivated to make a career decision?	A	B	C	D	E
2.	ready to invest the time and energy necessary to make a career decision?	A	B	C	D	E
3.	capable of learning the skills necessary to make a career decision?	A	B	C	D	E

Self-Assessment

How confident are you that you could:						
4.	list your past work-related achievements?	A	B	C	D	E
5.	list your other achievements?	A	B	C	D	E
6.	name your career-related skills?	A	B	C	D	E
7.	name several work-related activities in which you are interested?	A	B	C	D	E
8.	list your values (what is most important to you) related to work?	A	B	C	D	E
9.	determine the relative importance to you of working with things (machines, tools, etc.), people (students, customers, etc.), or information (computer printouts, reports, etc.)?	A	B	C	D	E
10.	name 3 or more occupations in which you are interested?	A	B	C	D	E
11.	name 3 or more occupations which you feel capable of performing?	A	B	C	D	E

3

Self-Assessment (continued)

		Not Confident At All	Somewhat Unconfident	Fairly Confident	Mostly Confident	Completely Confident
How confident are you that you could:						
12.	name 3 or more occupations which you feel would allow you to do work which is in line with your values?	A	B	C	D	E

Information Seeking

How confident are you that you could:

13.	find general career information (duties, nature of work, etc.) about the occupations in which you are interested?	A	B	C	D	E
14.	find specific career information about the education or training required, salary, employment trends, etc. for the occupations in which you are interested?	A	B	C	D	E
15.	talk informally with people about occupations in which you are interested?	A	B	C	D	E
16.	explain how your interests match those of people in the occupations you are considering?	A	B	C	D	E
17.	explain how your values match those of people in the occupations you are considering?	A	B	C	D	E
18.	interview someone working in the occupations in which you are interested?	A	B	C	D	E
19.	list the benefits and risks of choosing each one of these occupations?	A	B	C	D	E

4

Deciding

How confident are you that you could:	Not Confident At All	Somewhat Unconfident	Fairly Confident	Mostly Confident	Completely Confident
20. describe yourself as a good decision maker?	A	B	C	D	E
21. see yourself as being ready to make a commitment to a career choice?	A	B	C	D	E
22. choose one education or training program from among several attractive alternatives?	A	B	C	D	E
23. choose one occupation from among several attractive alternatives?	A	B	C	D	E
24. choose an occupation which will fit with your other preferred life roles (spouse, parent, leisure, etc.)?	A	B	C	D	E
25. choose an occupation and then not worry about whether or not it was the right choice?	A	B	C	D	E
26. choose the occupation you want even though significant others in your life would not approve of your choice?	A	B	C	D	E
27. set short-term goals (covering the next 1 - 3 years)?	A	B	C	D	E
28. set long-term goals (covering the next 5 - 10 years)?	A	B	C	D	E
29. plan an education or training program which will help you to achieve your goals?	A	B	C	D	E
30. make a timetable for completing your education or training program and entering your chosen occupation?	A	B	C	D	E

5

Implementing Your Decision

		Not Confident At All	Somewhat Unconfident	Fairly Confident	Mostly Confident	Completely Confident
How confident are you that you could:						
31.	successfully complete your education or training program?	A	B	C	D	E
32.	prepare a good resume?	A	B	C	D	E
33.	prepare a good letter of application?	A	B	C	D	E
34.	get letters of recommendation from teachers and/or former employers?	A	B	C	D	E
35.	apply for a job in your chosen occupation?	A	B	C	D	E
36.	interview for a job in your chosen occupation?	A	B	C	D	E
37.	be offered and accept a job in your chosen occupation?	A	B	C	D	E
38.	move to another area to seek employment in your chosen occupation?	A	B	C	D	E
39.	successfully perform during your first year in the job and receive a positive evaluation?	A	B	C	D	E
40.	successfully progress in your career?	A	B	C	D	E

Revised 4/94

April 2, 1997

To Whom It May Concern:

William Thomas Pinkston has permission to reproduce the Career Planning Confidence Scale.

Sincerely,

Garrett J. McAuliffe, Ed.D.

APPENDIX E

Profile of Mood States

(Items 17 through 65 not shown.)

NAME _____ DATE _____

SEX: Male (M) Female (F)

IDENTIFICATION

Below is a list of words that describe feelings people have. Please read each one carefully. Then fill in ONE circle under the answer to the right which best describes HOW YOU HAVE BEEN FEELING DURING THE PAST WEEK INCLUDING TODAY.

The numbers refer to these phrases.

0 = Not at all
1 = A little
2 = Moderately
3 = Quite a bit
4 = Extremely

Col (C) O P (O)

	(0) NOT AT ALL	(1) A LITTLE	(2) MODERATELY	(3) QUITE A BIT	(4) EXTREMELY
1. Friendly					
2. Tense					
3. Angry					
4. Worn out					
5. Unhappy					
6. Clear-headed					
7. Lively					
8. Confused					
9. Sorry for things done					
10. Shaky					
11. Listless					
12. Peeved					
13. Considerate					
14. Sad					
15. Active					
16. On edge					

APPENDIX F

Multiple Affect Adjective Check List - Revised

(Items 34 through 132 not shown.)

1 ☐ active
2 ☐ adventurous
3 ☐ affectionate
4 ☐ afraid
5 ☐ agitated
6 ☐ agreeable
7 ☐ aggressive
8 ☐ alive
9 ☐ alone
10 ☐ amiable
11 ☐ amused
12 ☐ angry
13 ☐ annoyed
14 ☐ awful
15 ☐ bashful
16 ☐ bitter
17 ☐ blue
18 ☐ bored
19 ☐ calm
20 ☐ cautious
21 ☐ cheerful
22 ☐ clean
23 ☐ complaining
24 ☐ contented
25 ☐ contrary
26 ☐ cool
27 ☐ cooperative
28 ☐ critical
29 ☐ cross
30 ☐ cruel
31 ☐ daring
32 ☐ desperate
33 ☐ destroyed